WHAT SHALL I EAT AND WHY

Essential Food Facts

Louisiana State Department of Health
New Orleans, La.

Printed by Wetzel Printing, Inc.
New Orleans, Louisiana,
May, 1942

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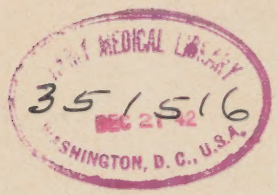

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LINES TO TAKE THE CONCEIT OUT OF ANYBODY

The chemists, in their searching way
Thus analyze our human clay:
Your body's lime, reports this group,
Would whitewash just one chicken coop,
Your sulphur content, if you please,
Would rid a single dog of fleas.
Your iron would make a two-inch nail.
(An iron will? of no avail!)
A child's toy cannon could explode
On what is your potassium load.
Your phosphorus would tip some matches.
(A man takes chances when he scratches.)
Nor does it count how much you sup:
Your sugar measures scarce a cup.
A laundryman can still take hope:
Your fat would make six bars of soap.
And so, if you've a swollen head,
Remember what the chemists said:
Your bodily ingredients
Are worth just eighty-seven cents.

Ruth Seymour Vesely

Reprinted by permission from News Edition, of June 10, 1937 of Industrial and Engineering Chemistry.

FOOD ESSENTIALS

According to McCollum and Becker

"Amino acids	10	
Fat—soluble vitamins	4	(Vitamins A, D, E and K)
Water—soluble vitamins	6	(Ascorbic acid, thiamin, riboflavin, nicotinic acid, pyridoxin, pantothenic acid)
Fatty acid	1	
Choline	1	
Source of glucose	1	(Sugars, starches)
Mineral elements	13	(Sodium, potassium, calcium, magnesium, chlorine, iodine, phosphorus, sulphur, iron, copper, manganese, zinc, cobalt)
Total known nutrients	36"	

Food, Nutrition and Health, E. V. McCollum and J. Ernestine Becker, Fifth Edition, 1940.

"DIETARY 'PATTERN' TO MEET THE RECOMMENDED ALLOWANCES"

"Milk, adults 1 pt., children 1½ pts. to 1 qt.

Egg, 3 or 4 times per week.

Meat, 1 serving (1 oz. at 1 yr. up to 3 ozs. for adults).

Vegetables, 2 servings. One green or yellow.

Fruit, 2 servings. One citrus or tomato and one other, as apple, prunes, etc.

Potato, one or more servings.

Butter or fortified oleo, (100-500 calories).

Whole grain or 'enriched' cereal and bread, at least half of the intake.

Sugar, fat, etc., to complete calories."

Committee on Food and Nutrition, National Research Council, May, 1941.

Introduction

Food is probably man's most fundamental need. To satisfy this need, primitive man wandered the face of the earth. When he sought to insure a food supply and cultivate the first grass-like forerunners of our present day cereals, he unwittingly laid the foundation of civilization, for he necessarily established permanent or semi-permanent homes.

It is a step of thousands of years from homes near the first primitive grain patches to cliff dwellers of New York today; yet such cities are made possible not by the superior architecture and daring of modern engineers, for the pyramids still stand as mute evidence of the engineering skill of other days, but the modern city of cliff dwellers is made possible by superior methods of preservation of foods—the tin can, to be specific. Who would dare pile family after family in tall buildings set in the midst of cement covered acres with no more available soil than a few flower pots for growing geraniums, were it not for modern canning, refrigeration and transportation?

The history of a race is largely the history of its food. It is not an accident that the meat eating Nordics are taller than the Japanese, Chinese and Malays who for centuries have lived on a low or a protein deficient diet. Minor differences in the same race may be traced to food habits: the bad teeth of the meat eating middle class Englishman compare poorly with the strong, fine teeth of the European peasant, who supplies his protein need mainly with cheese which is also very rich in calcium; the Manchus in China are notably taller than the lower classes because for generations they have been the wealthy class and have not suffered from protein deficiencies.

Climate influences food habits. The Eskimo eats little but meat and fat; the native of the tropics eats largely of fruit and vegetables; the one is best fortifying himself against extreme cold; the other is restoring most effectively the body fluids lost through excessive perspiration.

The Japanese with a vitamin A deficient diet tend to have bad eyes for the same reason that many born in Germany during the first World War, when the entire civilian population suffered an acute vitamin A shortage, were either blind or had impaired vision. An Englishman cured scurvy among his sailors by giving the juice of citrus fruits (vitamin C); England was first to make lime (citrus) juice a compulsory part of a sailor's diet. England is still the leading sea power of the world.

In 1453, the Turks captured Constantinople and cut off the passage to the East, thus cutting off the spice supply of Europe; spices were necessary to preserve meat or to cover up incipient decay. Europe wanted its meat and needed its spices. The direct outcome was the Columbus episode of 1492 and a new world. Truly the urge for food is compelling and great romance travels in its wake.

Everyone eats. It has been estimated that in approximately seven weeks, the average American eats his own weight in food; the young eat their own weight in approximately two weeks; the very old in about nine weeks. A person probably drinks in actual weight one-half to over the actual amount eaten, depending on his personal water drinking habits.

Because everyone eats food, and a considerable quantity of it, there is the very prevalent feeling that everyone knows all about foods. This feeling of assurance is particularly strong among that section of the population which prepares three meals a day. Unfortunately, familiarity does not mean understanding; many millions of apples had fallen before the right apple fell before the right man to suggest the law of gravity.

Today, there is probably no subject about which there exists more false ideas, more "isms," more fads and more downright dangerous notions than about food. Ignorance and misinformation in this field constitute a menace not only to personal but to national well being, for health and efficiency depend more upon food than upon any single factor. The food of the individual's mother prior to his birth directly affects his body formation, his health. From birth onward, food and its assimilation determine growth, state of nutrition, health and perhaps, when the whole truth is known, men-

tal development and character. Later in life, food can influence the reproduction of new life.

With increased knowledge, the line between foods and medicines is growing very thin. Diet plays a major part in the treatment of such conditions as beriberi, scurvy, pellagra, rickets, tuberculosis, diabetes, gastric ulcer, infantile diarrhea and various other ills. More and more is it becoming apparent that infections gain their hold upon the body when the state of nutrition is low. In the border land of malnutrition grow the vague symptoms of unrecognized deficiencies, the minor ailments that make life miserable before their cause becomes sufficiently definite to be recognized.

The changing world has not sufficiently changed national dietary habits. The man whose father walked to work, cut wood, spent much of his time out of doors, now works at a desk all day, eats food in excess of his daily need, grows fat, and in all likelihood dies of heart trouble. His wife bears few children, plays cards, lets the servants and electricity do her work while she eats rich food, gets fat and in all probability becomes a fit subject for the diabetes of middle age.

Modern living has taken man out of the sunshine and put him under glass; hence the advertising of sun-ray lamps, vitamin D foods and even vitamin D face creams. It would take a Philadelphia lawyer with the training of a scientist superimposed to keep his balance and be uninfluenced by all the "do's" and "don'ts" hurled at him for the advertising page and the radio, unless it is remembered constantly that most of these admonitions have their main origin in hope of commercial gain. These are but a few of the trends of modern times.

The aim of the following pages is to set forth in a brief and usable manner the fundamental food facts that should be a part of every person's knowledge since, whether he knows it or not, he must eat to live. The last word in the science of nutrition is a long way off, but only that which is accepted as authoritative is used in the pages that follow.

Written in 1937.

Three years later, the aim of this book is the same—to present authoritativve information regarding nutrition in a simple and understandable form. The bulk of knowledge is now greater, but the need to know these things is also greater.

In May of this year, the Committee on Foods and Nutrition of the National Research Council agreed upon a set of recommended daily allowances. This book has been revised to conform with these recommendations.

Written in 1941.

M. C. M.

ARRANGEMENT

ILLUSTRATIONS

—Vitamin G—

For General Well-Being

Male rat, 28 weeks old

This rat had no vitamin G and weighed only 63 grams.
Note loss of hair and emaciated condition

The same rat 6 weeks later, after receiving food rich in vitamin G.
Its weight was then 169 grams

(Illustrations reproduced by permission of the U. S. Bureau of Home Economics)

Kinds Of Foods

In the absence of exact information, a varied diet including an abundance of fresh fruits, vegetables and whole grains, together with milk, eggs, meat and sea food, will very likely include every dietary essential. When an emergency arises, be it physical, financial or otherwise, and the quantity and selection of food is limited, then a more exact knowledge of food is essential.

There are various ways to classify foods: plant foods, animal foods, mineral foods; but the most fundamental classification is that which considers each food for its principal contribution to the body, that is, proteins, starches and sugars,—technically called carbohydrates,—fats, mineral-bearing and vitamin-bearing foods. Few foods belong absolutely in one class to the exclusion of other classes. Gelatin and egg white are pure proteins; sugar, cornstarch are pure carbohydrates; most oils and shortenings are pure fats; table salt is a pure mineral; yet it is with these fundamental classifications that one must deal in order to eat intelligently.

The faddist who urges one not to eat a protein and a carbohydrate at the same meal does not know his food chemistry. How does he propose to take nine per cent of protein from the slice of bread? By what magic does he propose to remove the twenty per cent of carbohydrate from his navy beans? What device will separate the lactose (sugar of milk) from the casein (protein of milk) in his glass of milk? Does he propose to confine himself to unseasoned, unflavored egg white or gelatin at the protein meal and plain, white sugar and cornstarch at the carbohydrate meal?

In general, the facts that should be kept in mind are:—

PROTEIN RICH FOODS—necessary to build and rebuild the body tissues—milk, eggs, meat, fish, cheese, beans, peas and nuts. Taken in excess, protein can be converted into carbohydrates and carbohydrates into fats.

CARBOHYDRATE RICH FOODS—necessary to furnish energy and warmth—cereals, bread, rice, potatoes and all sweets. When taken in excess, they are converted to fat and stored as such.

FAT RICH FOODS—necessary for energy and to maintain body temperature—butter, cream, oil, shortenings and fats from all sources. When taken in excess, they are stored in the body as fats.

MINERAL RICH FOODS—necessary to build and maintain the bony parts of the body, the body fluids and tissues—in green vegetables, fruits, sea foods, milk, eggs, cheese, the organs of animal, salt and drinking water.

VITAMIN RICH FOODS—necessary to utilize the other food materials—present principally in reen and yellow vegetables, fruits, milk, eggs, sea foods, and in the organs of animals.

When all these needs are met, there must still be the right amount of food to fit the individual's needs. A man doing vigorous out-of-door work must eat more than a man sitting at a desk. One measures the energy-giving power of food in calories. Pound for pound, fat gives the most calories; pure sugar, starch and protein are of almost equal value. The calorie value of any food decreases as its water content increases: 3½ level tablespoonful of whole powdered milk with practically no water content are equivalent to one glassful of milk which is approximately eighty-seven per cent water.

Harrop says that one calorie is equivalent to the energy expended by a person rising from a sitting position in front of a door, turning a key in the lock and sitting down again.

A child playing actively needs a high calorie diet to take care of the great expenditure of energy. He may eat as much as a man, much more in proportion to his bodily size. Pregnant women toward the end of their pregnancy need slightly higher calorie diets than would be calculated for an ordinary woman doing the same amount of daily work; nursing women need about 60 calories a day for each pound of the baby's weight for the first three months, and 40 to 50 calories per pound for succeeding months.

Foods of the right kind and in the right amount are the foundation of a well nourished body.

Proteins

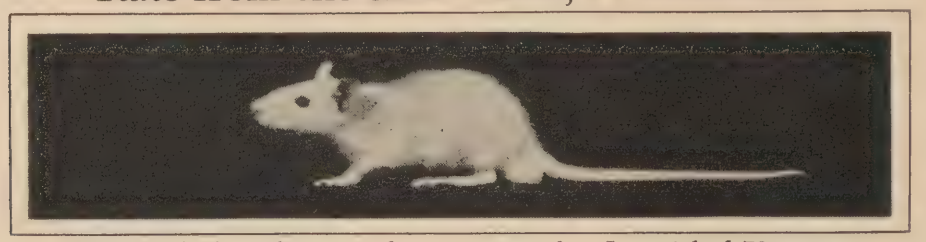
Besides the building of all new nerve, organic and muscle tissue, protein is necessary to replace the worn out parts of the human machine. Even in sleep, respiration, digestions and absorption take place and there is the flow of body fluids. These operations are work and require energy, even though in sleep or at absolute rest, the wearing out of the cells is at its lowest point. With increased activity, the wear and tear is increased. A plentiful amount of carbohydrates keeps the wear and tear to a minimum because carbohydrates as well as fats are then used for energy and protein is necessary then only for the rebuilding needs.

Fever in illness has the same wearing out or burning up activity as heavy exercise. If one worked without some protein foods to replace the worn out cells, there would be the same debilitating effect as from a fever, no matter how much fat, carbohydrate, mineral matter and vitamins were included in the diet. High calorie diets in typhoid are now the rule and the patient does not become emaciated.

From protein and from nothing else can the body manufacture its own proteins. It can take protein to make glucose, a carbohydrate, and glucose to make a fat, but it cannot reverse the process. Proteins in human metabolism must come from proteins. Plants are superior to man in this respect; they can manufacture proteins from

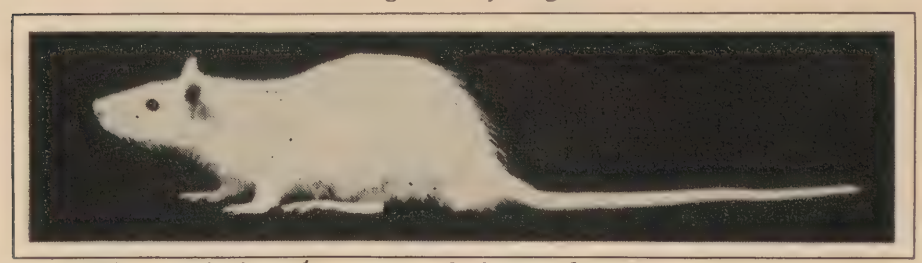
Protein for building muscles and all tissues.
Illustration reproduced by permission U. S. Bureau of Home Economics.

Rats from the same litter, 11 weeks old



This rat had good protein but not enough. It weighed 70 grams

This one had enough protein but of a poor kind. It weighed only 65 grams



This one had good protein and plenty of it. It grew normally and weighed 193 grams

simpler organic compounds, but man must get his ready made either from other animals or from plants.

Even the uninitiated might guess that there are different kinds of proteins and that all would not be of equal value to man. This is true. Chemically, a protein is a much more complex substance than a fat or a carbohydrate. It may be looked upon as an assemblage of smaller units, called amino acids, bound together to form a single substance.

Chemically, proteins are much alike, but there is no one characteristic of them so outstanding as the great difference in their physiological value. This is due largely to the fact that when the body digests a protein, the protein is merely broken down into its constituent parts, the amino acids, and reassembled.

There are 21 of these amino acids commonly occurring in foods and in the human body. Not all food proteins have a complete assortment of these amino acids; and, to further complicate the picture, not all amino acids are of equal value to the body. Let any one of four be entirely lacking in the diet and growth cannot occur. Six others seem concerned particularly with growth or the maintenance of body weight, while the presence of a seventh appears to add materially to the biological value.

Unless the protein contains these particular amino acids when eaten, the body suffers because, while it can rearrange these ready made parts and can perhaps even break down a more complex amino acid to make a simpler one, yet there is no evidence to indicate that it can manufacture for itself a single one of the essential amino acids.

In general, the proteins from animal sources are more likely to be "complete" with reference to human needs than are proteins from plant sources. If one were sufficiently informed, it would be entirely possible to get all the essentials from plant sources, but the average person is not so well informed and it is better to count on the protein from milk, cheese, eggs, meat and fish for the greater part of the demands of growth and maintenance of weight. The internal organs of animals, liver, brain, and the like are likely to be superior in quality to the purely muscle meats. The little work that has been done on sea foods indicates that their protein is of a particularly high order. Shrimp, which is one of the few that has been studied in detail, compares most favorably with milk in its amino acids and is even higher than milk in cystine content. Cystine is one of the essential amino acids.

If protein is taken in excess of bodily needs, it can be utilized for energy just as can fats and carbohydrates. It has, however, one quality which these substances have not: it speeds up the heat formation of the body. This peculiarity explains the long recognized fact that more meats can be eaten with comfort in winter than in summer. In fact, it is stated that an Eskimo, after a full meal of meat and fat, can sleep outside in a temperature of 30° below zero with no other protection than his clothes; but that without the meal, he would suffer extreme discomfort or freeze.

Some sources of complete protein are: milk, cheese, eggs, meat, fish in so far as they have been studied, soy beans, almonds, Brazil nuts.

Some of the notably incomplete proteins are those from navy beans, peas and gelatin. During the French Revolution, deVaux tried to supplement a meat shortage with gelatine with disastrous results. There are two kinds of protein in both corn and wheat; one complete and one incomplete in each instance.

The proteins might well be remembered as follows in order of their biological usefulness:

1. Milk, complete assortment of amino acids, and very rich in calcium as well as vitamins.

2. Eggs, complete proteins, rich in iron and vitamins.

3. Sea foods, complete proteins, rich in iodine and vitamins.

4. Internal organs of animals, complete proteins, rich in minerals and vitamins.

5. Muscle meats (pork, chicken, beef, mutton, and the like), complete.

6. Vegetable proteins, incomplete, except soy beans and a few nuts.

Carbohydrates

Carbohydrates and fats are essentially the energy foods. In the process of digestion, sugars are broken down into simpler sugars, for the most part into the biologically usable glucose, starches are first broken down and then converted into simple sugars, again mainly glucose, although the starch of the ground artichoke, mushroom and a few other vegetables is converted into levulose, the very sweet sugar that occurs in honey. These sugars supply energy; in excess, they are converted into fat and stored as such.

The amount of carbohydrate in a diet should be varied with the calorie needs of the person. On a 4000 calorie diet, the carbohydrates should constitute a relatively larger percentage of the food intake than on a 1500 calorie diet. The relative amount of carbohydrates should be cut in diets for obesity and for diabetes, but carbohydrates should not be eliminated for some are needed in every diet. In diabetes, it may be advisable to reduce them to a minimum, but the actual amount of the reduction should in all instances be left to the discretion of the physician in charge of the case.

Because there is no set ratio of the amount of carbohydrates to the other factors in the diet, and no set daily need, carbohydrates cannot be given as graphs in the pages that follow; but they are reported in actual grams present in the average helping of the food material under discussion. This actual amount, however, is not entirely available for digestion, but since the available carbohydrate figures have not been determined for all foods, the total amount present is given in the pages that follow.

The concensus of opinion is that it is better to supply the greater part of the carbohydrate intake with natural starches and sugars as they occur in fruit and vegetables than with sugar or excessively sweet confections or pastries. For instance, a hundred calorie orange is superior to a hundred calorie chocolate caramel; the orange calories are due to digestible natural sugar and it has the added vitamin and mineral content that the candy lacks. Candies and sweets have their place at the end of a meal; but they should be eaten after a meal in order not to dull the appetite. This is particularly true for children. Between meal sweets are wisely replaced with milk or fruits.

Since carbohydrate is the cheapest source of energy and since it is normally very easily used by the body, it forms the bulk of the average diet; therefore, it would be well to choose carbohydrates wisely. A refined cereal has no advantage over an unrefined one in its energy giving value, but the unrefined cereals,—rolled oats, whole wheat, brown rice—have a very superior food value. These unrefined cereals bring the diet an extra richness in the B complex group of vitamins, in vitamin E and in minerals. They also possess more bulk.

There is also evidence that the carbohydrate of the whole grain is more completely utilizable than the carbohydrate of refined cereals. This is likewise true of the protein present in the cereal.

Fats

Fats are the highest energy value foods; one gram of pure fat yields a little over nine calories while one gram of either carbohydrate or protein furnishes only a little over four calories. In other words, when one is getting fat and must keep his weather eye peeled for calories, watch the fat intake twice as much as the carbohydrate intake.

Fats maintain the body temperature and furnish energy. There is growing evidence that some fats are biologically quite superior to other fats and that deficiency conditions may arise from supplying the greater part of the fat in the diet with biologically inferior fats. This, however, need not concern a person whose diet is reasonably varied; but future researches may show that in restricted diets with the fats cut to a minimum, as in time of war or famine, there may be a real necessity for a proper choice of fats. Research has yet to com-

plete the list of the biologically superior and biologically inferior fats.

Fats are more slowly digested than other classes of foods, and are often absorbed by the body with little change. Since fats stay in the stomach longer than other foods, they appease hunger. It is a real fact that beans cooked with fat meat "stick to the ribs" as the man of the street expresses it, better than beans cooked with little or no fat. For this reason, even in a reducing diet, especially when a person has been accustomed to eating large quantities of food, it is better to include some fats so as to appease the appetite. For example, a cole slaw dressed with vinegar is lower by 100 calories than a cole slaw dressed with vinegar and one tablespoonful of oil, but because the digestion time is longer with the oil dressing, the onset of hunger is delayed. More recent research has shown fats to have a definite sparing action on thiamin (vitamin B_1). This fact may explain why the relatively lower vitamin B_1 intake in the South has not been more widely disastrous.

Judgment in the amount of fats is necessary. When Stefansson lived on a meat diet, he found that lean meat causes a diarrhea; mixed with fat, he lived solely on a meat diet for over one year. For the most economical digestion of the food materials, fats need some carbohydrates. "Fats burn best in the flame of carbohydrates" is the time-honored expression of this fact.

On digestion, fats break down into fatty acids and glycerol. Only one of these fatty acids, linoleic, is indispensable and must be present in the fat eaten because the body cannot make it. All others can be made from glucose.

Lipids are fat-like substances and occur combined with phosphoric acid and a nitrogenous base. One of these—choline—must, like linoleic acid, occur in the diet because it cannot be synthesized by the body.

Mineral Requirements

In point of actual amount, the mineral content of the body and the mineral content of the foods are very small indeed; but the amount seems to be in inverse ratio to their importance. In order of importance, calcium, iron and iodine are due the most consideration because they are most likely to be lacking. Phosporus is of itself necessary and it also bears a significant relation to calcium in metabolism,—a relation as yet not made entirely clear by research. In the average diet, however, phosphorus is not as likely as calcium to be lacking.

Iodine is omitted from the graphs that follow, not because it is unimportant, but because the available information is unsatisfactory. Iodine determinations have been of such difficulty that their number is relatively small; and of the reported values, the variation from region to region is so great that it seems pointless to include data that would be misleading. Other trace elements are present in foods, but there seems to be relatively little danger of a deficiency.

CALCIUM—Ninety-nine per cent of the calcium in the body is present in the bones and the teeth. Little is in the blood, but that little is very important and it can make the difference between health and disease. Calcium is concerned with the clotting of the blood, and its presence in the body fluids is essential for proper nerve tone and muscular activity. In childhood, when the bony structures are increasing, the calcium needs are greater than for an adult. Calcium for the first set of teeth must be supplied by the mother before the baby is born; she must also supply the needs for his bones. If these needs are not met by food, the mother's own bones and teeth may be depleted to serve the needs of the fetus. "For every child, a tooth" is the adage which recognizes this fact. The ease with which some pregnant women break bones is a similar manifestation. If a child is breast fed, the mother needs a great deal of extra calcium for the formation of the milk. Old people need extra calcium, for with age there is usually a lessening of the efficiency of metabolism; to compensate for this, extra calcium might well appear in the diet.

PHOSPHORUS—Phosphorus is important for the formation of bony structures and is essential for all activity. In any protein sufficient diet, it is not likely to be lacking. In herbivorous animals, "phosphorus sickness" (deficiency) can be severe and devastating on an unbalanced diet; in man, this is less likely. In man, as in animals, there is an optimum ratio of calcium intake to phosphorous, but what this ratio is cannot as yet be definitely stated. As with all exact nutritional work, one great difficulty lies in the divergence between chemical composition and the actual usability of the supply. If one gram of phosphorus is taken in, yet only half a gram is available for assimilation, the numerical chemical composition is misleading.

IRON—Iron is essential for the formation of hemoglobin, the red coloring matter of the blood. Lack of iron in food intake can cause nutritional anemia. It is essential for health, growth, a sense of well being and resistance to disease. It is necessary in increased amounts during pregnancy. It is one of the factors likely to be lacking in the diet of the average person. People on limited diets or diets depending largely on milk, which is notably poor in iron, should watch the iron intake carefully.

COPPER—Copper is in some way concerned with the assimilation of iron. Foods particularly useful in combating nutritional anemia, liver, eggs and oysters, are high in copper content as well as iron.

IODINE—Iodine is necessary for the proper functioning of the thyroid gland, for growth, for a sense of well being and for resistance to certain diseases. It is necessary in increased amounts during pregnancy and lactation. While iodine is present in the body and in the foods in the merest traces, the amounts being reported not in parts per hundred (per cent) but in parts per billion; yet it is essential for the formation of thyroxin by the thyroid gland. Thyroxin regulates the tempo of the human being like the "Fast-Slow" control of a phonograph. A derangement of the thyroid function causes goiter. Iodine is present in vegetables if the land on which they are grown has iodine; likewise, iodine is present in eggs and milk if the food of the chicken and cow contained iodine. This fact makes ordinary foods a variable source of supply, since unfortunately much land is iodine poor and most of the food canning industries are located in the iodine poor regions. Sea foods are the best source of iodine. One or two servings a week would likely insure an adequate supply. Of all sea foods, the oyster, because no part of the oyster is discarded, is the best for iodine. Iodized salt is used in many parts of the country to supply this need.

CHLORINE, SULPHUR, SODIUM AND POTASSIUM—Other trace elements are essential but they are not likely to be lacking in the average diet. Chlorine is necessary and is supplied mainly by table salt. It has to do with the retention of water in the body; excessive loss of salt through perspiration can cause severe headache. A little salt in the drinking water will restore this balance almost immediately. A little salt instead of sugar in a lemonade will take care of a minor disturbance. The metabolism of sulphur is in some as yet unexplained way, bound up with that of proteins. It has received little study, for there seems usually to be an adequate sulphur intake. Likewise, sodium and potassium are seldom lacking. A large intake of potassium rich vegetables calls naturally for a larger use of sodium rich salt. Inland vegetarian tribes in Africa make regular pilgrimages to the sea to meet this need; while the Eskimo, whose diet is for the most part sodium rich meat, actually dislikes salt.

OTHER TRACE ELEMENTS—Little is known of the roles in human nutrition of fluorine, zinc, silicon, magnesium, maganese and aluminum, but they seem to have a place of some importance. An excess of fluorine, usually from drinking water, can cause a mottling abnormality of the teeth; but a trifling content of fluorine seems to check dental caries. With these trace elements, experiments have been done on laboratory animals, but as yet, their true place of importance or unimportance in human nutrition is unknown.

Vitamins

Vitamins are probably the most dramatic elements in the diet. It must have been vitamins that the middle age alchemist was looking for when he thought he was seeking the philosopher's stone to turn baser things into gold. Still it was accident and not intent that revealed the first vitamin.

The scene was an island in the South Seas. A Dutch scientist paid a native boy to buy rice to feed his pigeons; the boy pocketed the money and "borrowed" rice—polished rice—from his friend, the steward at the hospital. The pigeons sickened. The steward went away; the boy had to buy rice; he bought the cheapest—unpolished rice. The pigeons promptly recovered. The scientist repeated the unconsciously performed experiment; pigeons fed white or polished rice became paralyzed and died. When even the very sick were fed unpolished rice, they recovered. This led to the recognition of an accessory food factor present in the outer layer of rice. Lack of this factor caused beriberi, a disease very prevalent in the rice eating countries of the East after white rice supplanted brown rice in the diet.

The substance, because necessary for life, was called a vitamin and is now known as vitamin B. Volumes have been writen since on what is known and unknown; yet some of these substances are still of unknown composition, even though they are so powerful that the merest trace of them in a diet will make the difference between health and disease. In truth, it is like the magic of the middle ages; but now that vitamins have become part and parcel of everyday life, have been isolated, and in some instances synthesized and manufactured, the average man speaks as casually of them as he does of electric lights.

VITAMIN A is an oil soluble vitamin, essential for growth, for maintenance of health, particularly of the eye and epethelial cells, and for successful reproduction and lactation. Lack of it probably predisposes to infections of the delicate membranes that line the inner surfaces of the body. The growing child, the pregnant or lactating mother, the person with or convalescing from respiratory diseases all need an extra supply of this vitamin. Lack of A causes night blindness and long continued deficiency causes blindness. It is well stored in the body, is little affected by heat, except when prolonged exposure is practiced in cooking. Unless the diet is restricted in butter fat or vegetables, it is not likely to be lacking. The form in which A occurs in green or yellow vegetables and yellow fruit is the provitamin, a yellow dye which the normal person can convert into true vitamin A.

VITAMIN B_1 is essential for growth, reproduction and lactation; it stimulates the appetite, aids digestion and assimilation. Lack of it causes beriberi. Many of the minor ills may one day be traced to a deficiency of this vitamin, for although it is present in many foods, few are rich in it; it is poorly stored in the body and easily destroyed if prolonged cooking in a moist atmosphere or very high temperatures are employed. It is water soluble and can be lost by discarding the cooking water. Alkalis hasten its destruction; hence, the custom of adding cooking soda to beans or greens to make them tender entirely destroys B_1. The daily needs have been established; a child needs less than a grown person; the pregant woman and the nursing mother need more vitamin B_1 than the ordinary adult.

VITAMIN C is essential for health, especially for the formation of bone and tooth structure and it seems to aid in the prevention of infections. Lack of it will cause scurvy. It is not stored in the body for any appreciable length of time and is easily destroyed by ordinary cooking processes or by prolonged exposure to air. The daily need is quite well established and it is fortunately easily supplied if fresh fruit or vegetables are included in the diet. It is water soluble as in vitamin B_1 and, if any survived cooking, may be thrown away in the cooking water.

VITAMIN D is essential for the utilization of calcium and phosphorus in bone formation. Lack of it causes rickets and predisposes to dental caries. It is oil soluble, very stable, and well stored in the body. It is present in relatively few foods except sea foods, yolk of eggs, butter, and cream. The

irradiated foods are fair sources of this vitamin. Cod liver oil owes its beneficial effects to both vitamins A and D; viosterol is artificially prepared vitamin D. When sunlight is present in sufficient amount, the body probably has the ability to make vitamin D sufficient for its needs. Just what amount is needed in the average adult's diet has not been definitely established, but physicians have very definite ranges within which they prescribe cod liver oil and viosterol products for pregnant and nursing mothers, infants, and growing children.

VITAMIN E is essential in rats for reproduction and successful lactation. The same is probably true for humans, but it seems to be a stable vitamin; well stored in the body and very generously distributed in foods—meats, both muscle and fat; butter; whole grains, especially yellow corn and wheat; leafy vegetables, molasses; egg yolk and vegetable oils.

VITAMIN B_2 or G has been the subject of much confusion. The original water soluble vitamin B was not a chemically pure substance but 15 chemical substances. Vitamin B_2 or G, in earlier experiments, was itself a chemical mixture: riboflavin, a dye which is now called vitamin G, and the pellagra preventive factor, now known to be nicotinic acid. Those foods, however, reported rich in vitamin G, are, for the most part, also rich in pellagra preventive properties as well as other B complex factors.

VITAMIN G (B_2) or riboflavin, is essential for health, growth, a normal appetite and for a healthy condition of the skin. The eyes are affected by a deficiency. It is stable and probably is stored to a certain extent in the body. In general, vitamin G is present in large amounts in yeast, liver, kidney, lean meats, eggs, milk and green leafy vegetables.

NICOTINIC ACID—sometimes called the pellagra preventive factor—was found to cure black tongue in dogs and to relieve the worst symptoms of human pellagra. It must be remembered that most pellagra is complicated by not one, but many deficiencies because a diet lacking in nicotinic acid will almost certainly be lacking in other members of the B complex group.

Other members of the B complex group are: B_6, which has been reported to help marvelously in cases of pellagra that do not yield to a combined treatment of nicotinic acid, thiamin and riboflavin; pantothenic acid, human significance not clear; and anti-gray hair factor of definite importance in animal nutrition, human significance not clear. Developments in this field are rapid.

VITAMIN K, the anti-hemorrhagic vitamin, is important in human nutrition. It is present in green leafy vegetables, cauliflower and tomatoes.

Reaction And Bulk

Foods are divided into two classes: acid producing and alkali producing. Meat, eggs, fish, cereals and a very few vegetables and fruits are acid forming. Potatoes and most vegetables are alkali forming; citrus fruits, even lemons, in spite of the fruit acids which make them acid to taste, are alkali forming in the body. In some instances, it is well to know these reactions, but with the ordinary well balanced diet there is little cause for concern. It takes a very distorted diet and a very abnormal one to influence the body's stability. It is well there is this resistance, for if the reaction of the blood should shift ever so slightly from the normal range, the shift spells death. Fortunately this shift does not and cannot occur from even the most foolish tampering with diets.

The bulk value of a food concerns assimilation and constipation; the more bulky the food, the more likely it is to induce proper bowel movement. Bulky foods, however, are to be avoided in certain stomach and intestinal disorders.

The rating of foods on these scores is included because in certain diets, the information is of particular value to the physician who is prescribing diets in disease.

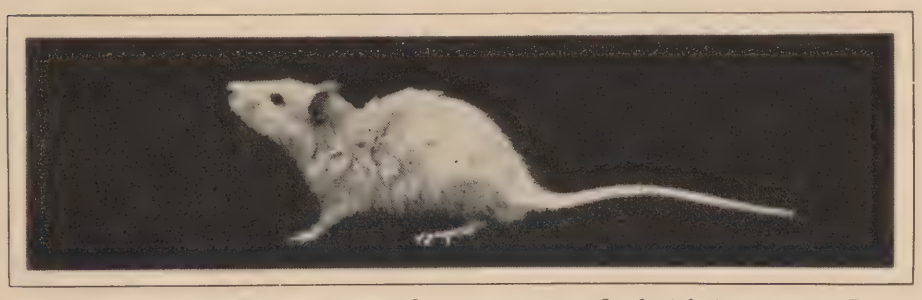
Vitamin B

For Good Appetite, Good Nerve and Good Muscle Tone

Illustrations reproduced by Permission of the U. S. Bureau of Home Economics

Female rat, 24 weeks old

This rat did not have enough vitamin B. The lack of muscle control is called spastic paralysis



The same rat 24 hours later, after receiving a food rich in vitamin B. Already it has recovered muscle control

Food Changes In Cooking, Canning, Processing

Proper cooking renders protein and starches more assimilable. Excessively high temperatures can break down fats into indigestible constituents. Homogenized or pulped food are, in general, of improved assimilability. Vitamin and mineral losses are often great and in some instances complete.

Mineral losses in cooking, particularly calcium, phosphorus, iron and iodine occur by dissolving these constituents in water and discarding the water. Time and excess water increase the losses.

Vitamin A is relatively stable to heat except in presence of rancid fats or of excessive air. Dried foods, on keeping, may lose as much as 50% of their vitamin A. Roasting and baking are more destructive to A than boiling.

Vitamin B_1 is water soluble; excess water, excess or prolonged heat, or excess alkalinity prove destructive. In acid solution 5-15% is often lost; in alkaline solution 80-100% destruction occurs. Dry mixtures suffer less than moist mixtures. Boiling losses usually do not exceed 10-15% unless alkaline. The proportion of B_1 in the cooking water is often 50% in case of finely divided leafy foods. Baking causes loss even if the temperature is moderate. Canning causes little loss but 40% destruction has been reported on storing.

Drying at 60°C. does not seem to be particularly harmful.

Vitamin C, also water soluble, is lost by discarding cooking water, by using excessive amounts of water and by cooking for a long time at too high a temperature. The presence of air hastens destruction. Acid protects against destruction. The oxidation (destruction) of vitamin C takes place in two steps. When partially oxidized, it can still be used in human metabolism; when wholly oxidized, it cannot. Time is thus a big factor—fresh foods lose C rapidly. Fully ripe fruit is richer in C than immature. Certain oxidases speed the destruction of C and this factor is responsible for the storage losses. Quick heating and cooking, especially of frozen foods, is very desirable. Small amounts of copper hasten oxidation. Spinach may lose 50% of its C on standing 3 days; bell pepper, protected by its skin from air loses little on standing. Refrigeration slows vitamin C loss. Preparing vegetables before time to cook is destructive of C. Keeping cooked foods lessens the C. Boiling destroys 20-25% of the C and the cooking water may have as much as 40% of the C in it. Drying is very destructive to C.

Vitamin D occurs in so few foods; it is scarcely to be considered but it is not destroyed by heat or oxidation.

Vitamin G and nicotinic acid are both water soluble but survive cooking processes well. Alkalies hasten the destruction of G; acid protects. Unlike B_1, G is destroyed more quickly in a dry than in a moist mixture. There is no information on drying.

Vitamin B_6 is destroyed by long exposure to light but is stable toward heat even in alkaline solutions. It is water soluble.

IN GENERAL, COOK FRUIT AND VEGETABLES QUICKLY AND IN AS LITTLE WATER AS POSSIBLE. PROTECT BY ACID WHEN POSSIBLE. A LITTLE VINEGAR, LEMON JUICE OR TOMATO JUICE IS HELPFUL. PROTECT FROM AIR AND LIGHT. WHEN FOOD MUST BE KEPT, STORE AT LOW TEMPERATURES. NEVER DISCARD COOKING WATER. IF NOT SERVED WITH VEGETABLES, USE IN SOUPS OR GRAVIES.

Recommended Allowances

The Committee on Foods and Nutrition of the National Research Council has recommended the dietary allowances which appear on page 14. Phosphorus is omitted by the committee. Since a value is needed for the food graphs in the pages that follow, the usually accepted standard for adults—men and women— 1.32 grams per day, is used. The need during pregnancy for phosphorus rises from 1.5 per day to 2.5 grams; during lactation, it is 2.0—3.0 grams per day.

In studying these allowances, it will be noted that certain values have been increased and others slightly decreased when compared with previous publications, but for the sake of conformity these standards have been used as recommended.

Assuming the average man to weigh 70 kilograms (154 pounds) and to do work requiring 3000 calories to supply his energy needs, the food needs break down so that to balance every hundred calories eaten would require 2.33 grams of protein; 0.027 gram of calcium; 0.044 gram of phosphorous; 0.4 milligram of iron; 167 International Units of vitamin A; 0.06 milligram, approximately 20 International Units of thiamin or vitamin B_1; 0.09 milligram of riboflavin, which is variously called vitamin B_2 or G; 0.6 milligram of nicotinic acid*; 2.5 milligrams or 50 International Units of ascorbic acid, commonly called vitamin C. The adult need of vitamin D is not given.

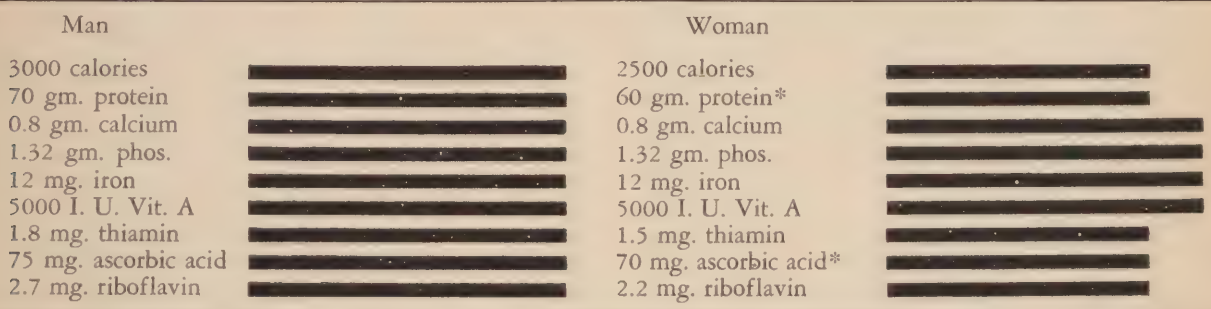
Assuming the average woman to weigh 56 kilograms (123 pounds) and to do work requiring 2500 calories, her recommended dietary allowances break down so that they differ proportionately from that of the man only in those essentials where the adult's allowance is the same for both sexes; namely, calcium, phosphorus, iron, and vitamin A. With reference to each 100 calorie intake,

*Nicotinic acid is not included in the food graphs because at the present time there is little quantitative data.

the allowance of these is 1/5 greater for the woman than for the man.

With both men and women, if the average calorie (3000 for the man, 2500 for the woman) intake is assumed, the food graphs will figure directly into average needs or allowances. The food eaten to give a balanced diet will fall into patterns like the following:

In checking diets of both men and women, set up the standard needs and use 30 (see page 15) as a fixed point of reference for men and 25 for women. The only normal variation from this standard will be in the calories and this need can be established roughly by reference to the tables that follow.



The average need depends upon weight, muscular activity, and the apparent efficiency of utilization of food by the body. A child's daily calorie needs are relatively greater than a grown person's due to the child's excessive activity.

For adults:

Weight		Exercise			
Pounds	Kilograms	Light (kg.x31)	Moderate (kg.x38)	Heavy (kg.x49)	Very Heavy (kg.x71)
110	50	1600 cal.	1900	2500	3600
121	55	1700	2100	2700	3900
132	60	1900	2300	2900	4300
143	65	2000	2500	3200	4600
154	70	2200	2700	3400	5000
165	75	2300	2900	3700	5300
176	80	2500	3000	3900	5700
187	85	2600	3200	4200	6000

For children:—

	Calories per kg. weight (kg. is 2.2 lbs.)		Calories per lb.	
1- 2	100-90		45-40	
3- 5	90-80		40-36	
6- 9	80-70		36-32	
10-13	70-60		32-27	
14-19	60-50 (boys)	50-35 (girls)	27-23 (boys)	23-16 (girls)

Reducing diets should lessen the calories but should not tamper with other food allowances. A 500 calorie reduction would be a safe beginning. Weight-gaining diets should increase the calorie intake above that calculated as necessary to meet the person's maintenance and energy needs. A 500 calorie increase would be a good trial value. Slow changes in weight are much preferable to extremely rapid changes.

Infant feeding involves very special food needs

*Using 2.33 gm. protein and 2.5 mg. ascorbic acid to each hundred calories, will introduce a slight error, but for purposes of simplicity, it seems better to do this than to complicate the graphs.

and should be undertaken with the advice of a physician. This is particularly true of the baby weighing 4½ pounds or less. (Premature.)

The growing periods are of especial importance because the balance of food with reference to the calorie intake is different from the maintenance needs of the adult. Pregnancy and lactation are rightfully considered in this special needs group for, in the one, the mother is furnishing the food elements that when assimilated by her will be available for the growth of the child and, during the nursing period, she is responsible for the greater part of the child's nourishment. At no time in a person's life is growth so rapid as before birth, and at no time after birth is growth so rapid as during the first year.

The recommended eating pattern for the child from 1-3 years with reference to each 100 calories consumed is about 2/3 greater protein intake than for the adult, about three times the calcium, about double the phosphorus, and the vitamins not markedly different from an adult.*

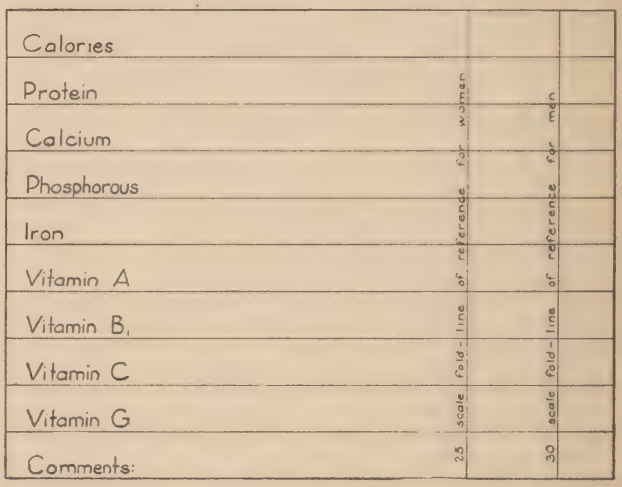
The recommended pattern for the child from 3 years to adolescence is about ¼ more protein than an adult for each hundred calories eaten, approximately ¾ more calcium, from double to about one-fourth more than the adult for phosphorus, about ¼ more for iron; the vitamins are not markedly different*.

The adolescent group needs increased protein 1/5-1/10—decreasing need with increasing age—more per 100 calories, as well as about ½-⅓ more calcium and about ¼ more iron with the vitamin needs not markedly different from the adult*.

In calculating the daily food intake, list the kinds and amounts of food eaten. Arranging alphabetically will expedite the calculation since the food graphs are arranged alphabetically.

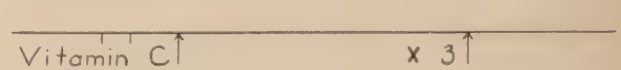
Take a sheet of ordinary typewriter paper, turn lengthwise and fold the top under ¾ of an inch and crease. Continue to fold over and over—not accordion-wise—nine times. This will give (counting the top edge of the paper as the first crease) nine creases or folds to check against each of the 9 food essentials in the graphs: calories, protein, calcium, phosphorus, iron, vitamins A, B, C, and G.

Turn to page 15 and get the point of reference (30 for the man, 25 for the woman) by laying the long edge of the paper against the scale; mark or fold paper crosswise at this point. Then designate the lines according to food essentials. This will give a page that appears as follows:



8½"x11" typewriter sheet folded 9 times lengthwise (all folds on outside) and marked or folded at 30 or 25 to indicate the average intake of adult man or woman. Labeled ready for calculating.

If three slices of whole wheat bread appear first on the list of food, turn to bread on page 23 and on the top edge of the sheet (labeled calories) mark off the length equivalent to 3 slices of bread. Turn this section under so that the folded edge (marked protein) is now at the top of the page; mark off the protein equivalent of one slice of bread 3 times. Proceed down the food essentials in the same manner. When a fraction of a serving only is eaten, use only that fraction of the average serving value. When, due to excessive food value in some food, there is a factor indicated on the graphs (x 2, x 3, *etc.*), it will be much easier to indicate this value as on the vitamin C line by arrows as:



*Actually, the figures recommended show a slightly diminished need for the B complex per 100 calories eaten for all children.

so that ordinary marks will be counted once but the distance between arrows will be multiplied by the proper factor.

When the food values of all foods eaten have been entered on the sheet, the results should be evaluated against the scale calculated on page 15. This will give a fair clear idea as to whether the food eaten was adequate, marginal, or grossly inadequate.

Those Who Need Special Foods

1. THE PREMATURE BABY NEEDS no water until 12 hours old, no food until 18 hours old; mother's milk is then fed if obtainable. If not, feed boiled *skimmed* cow's milk, diluted 1 to 1, plus 5 to 10% added carbohydrate in sufficient amount to provide 120 calories per kilogram (55 calories per pound). Increased vitamin C (orange juice, 1½ oz., or ascorbic acid) and increased vitamin D (2 to 3 times as much as for the ordinary infant.)—Abstracted from MS of Ethel C. Dunham, M. D., Children's Bureau, Dept. of Labor.
2. THE INFANT AND GROWING CHILD NEEDS a greater amount per unit of body weight than the adult of energy foods. Good quality proteins and mineral matter are needed in greater amount.
3. THE ADOLESCENT NEEDS in greater abundance energy foods, good quality protein and mineral matter.
4. WOMEN NEED a relatively greater (1/5) iron, calcium, phosphorus and vitamin A intake than men.
5. PREGNANT WOMEN NEED:
   (1) Little increase in calories until the last three months and then in proportion only to the increase in weight.
   (2) Proteins of GOOD biological quality (¼ more during 4 to 9 mo.)
   (3) Increased calcium intake (almost double her average needs during 4th to 9th month)
   (4) Increased phosphorus intake (about ½ above her average need)
   (5) Increased iron intake (¼ above her average need)
   (6) Increased vitamin A intake (1/5 above her average need)
   (7) Increased vitamin B intake (1/5 more)
   (8) Increased vitamin C intake (nearly double)
   (9) Increased vitamin D intake (400-800 I. U. per day.)
   (10) Increased vitamin E intake.
   (11) Increased vitamin G intake (about ⅛ greater.)
   (12) Increased nicotinic acid (about 1/5 more)
6. NURSING MOTHERS NEED:
   (1) Increased calorie* intake.
   (2) Increase of good quality protein: double the amount withdrawn in the milk (about 2/5 above normal need)
   (3) Increased calcium intake (more than double her average need)
   (4) Increased phosphorus intake (nearly double her average need)
   (5) Increased iron intake (¼ above her average need)
   (6) Increased vitamin A intake (3/5 above her average need)
   (7) Increased vitamin B intake (about ½ more)
   (8) Increased vitamin C intake double adult need)
   (9) Increased vitamin D intake (400-800 I. U. per day)
   (10) Increased vitamin G intake (about 1/3 greater)
   (11) Increased nicotinic acid (about ½ more)
7. OLD PEOPLE NEED:
   (1) Increased mineral intake, especially calcium, is recommended.
   (2) Increased vitamin intake, particularly riboflavin and vitamin A is recommended.

* Five ounces of milk require 100 extra calories or 1 calorie share. Calculate 0.6 calorie shares per day per pound of baby's weight for the first three months; 0.5 calorie shares for the next three months, and 0.4-0.45 calorie shares for the last three months.

RECOMMENDED DAILY ALLOWANCES FOR SPECIFIC NUTRIENTS†

Committee on Foods and Nutrition, National Research Council

	Calories	Protein grams	Calcium grams	Iron mg.	Vitamin A¶ I. U.	Thiamin (B_1) mg.‡	Riboflavin mg.	Nicotinic acid mg.	Ascorbic acid mg.‡	Vitamin D I. U.
Man (70 Kg.)										
Moderately active	3000	70	0.8	12	5000	1.8	2.7	18	75	£
Very active	4500					2.3	3.3	23		
Sedentary	2500					1.5	2.2	15		
Woman (56 Kg.)										
Moderately active	2500	60	0.8	12	5000	1.5	2.2	15	70	£
Very active	3000					1.8	2.7	18		
Sedentary	2100					1.2	1.8	12		
Pregnancy (latter half)	2500	85	1.5	15	6000	1.8	2.5	18	100	400-800
Lactation	3000	100	2.0	15	8000	2.3	3.0	23	150	400-800
Children up to 12 years:										
Under 1 year‖	100/Kg.	3-4/Kg.	1.0	6	1500	0.4	0.6	4	30	400-800
1-3 years*	1200	40	1.0	7	2000	0.6	0.9	6	35	£
4-6 years	1600	50	1.0	8	2500	0.8	1.2	8	50	
7-9 years	2000	60	1.0	10	3500	1.0	1.5	10	60	
10-12 years	2500	70	1.0	12	4500	1.2	1.8	12	75	
Children over 12 years:										
Girls, 13-15 years	2800	80	1.3	15	5000	1.4	2.0	14	80	£
16-20 years	2400	75	1.0	15	5000	1.2	1.8	12	80	
Boys, 13-15 years	3200	85	1.4	15	5000	1.6	2.4	16	90	£
16-20 years	3800	100	1.4	15	6000	2.0	3.0	20	100	

†Tentative goal toward which to aim in planning practical dietaries; can be met by a good diet of natural foods. Such a diet will also provide other minerals and vitamins, the requirements for which are less well known.

‡1 mg. thiamin equal 333 I. U.; 1 mg. ascorbic acid equals 20 I. U.

¶Requirements may be less if provided as vitamin A; greater if provided chiefly as the pro-vitamin carotene.

‖Needs of infants increase from month to month. The amounts given are for approximately 6-8 months. The amounts of protein and calcium needed are less if derived from breast milk.

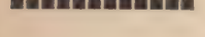
*Allowances are based on needs for the middle year in each group, (as 2, 5, 8, etc.) and for moderate activity.

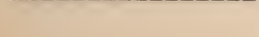
£Vitamin D is undoubtedly necessary for older children and adults. When not available from sunshine, it should be provided probably up to the minimum amounts recommended for infants.

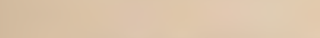
SCALE FOR CALCULATING FOOD INTAKE

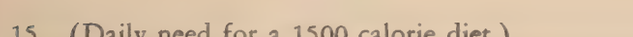
1


2


3


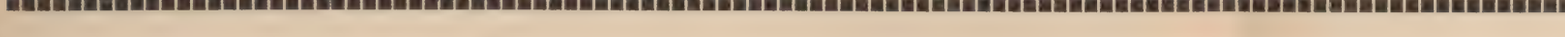
4


5


10 (Daily need for a 1000 calorie diet.)


15 (Daily need for a 1500 calorie diet.)

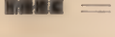

20 (Daily need for a 2000 calorie diet.)


25 (Daily need for a 2500 calorie diet.)


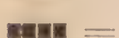
30 (Daily need for a 3000 calorie diet.)


SCALE EQUIVALENTS

 = 100 calories

 = 2.33 gms. protein

 = 0.027 gm. calcium

 = 0.044 gm. phosphorus

 = 0.4 mg. iron

 = 167 I. U. vitamin A

 = 0.06 mg. thiamin, vitamin B_1

 = 2.5 mgs. ascorbic acid

 = 0.09 mg. riboflavin, vitamin G (B_2)

Carbohydrate, expressed as grams present.

Reaction, expressed in terms of number of cubic-centimeters of normal solution of acid or base necessary to neutralize the ash from the portion of food described.

For greater dietary needs, combine arithmetically the graphs given above.

It is realized that many of the values given in the following pages are only relatively correct (for example, the iron content of a plant may vary according to the soil, and then the utilizable iron may vary from the iron chemically present), yet for effective nutritional work there must be quantitative data for evaluating diets.

APPLE, FRESH

Average helping: 1 large 3½″ diameter (159 gms. or 5.6 oz., edible portion; 212 gms. or 7.5 oz. as purchased)

Calories	■■■■
Protein	■
Calcium	■■
Phosphorus	■■
Iron	■■■■■■
Vitamin A	■■■
Vitamin B_1	■■■■■
Vitamin C	■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 5.7
Bulk:	Good.
Carbohydrates:	23 gms.

Storage at 32° C. does not materially affect vitamin C content; gradual loss at other temperatures; freezing except at -20° C. or -10°.C. in vacuum also lowers the vitamin C content.

APRICOTS, DRIED

Average helping: 9 halves (36 gms. or 1.3 oz.)

Calories	■■■■
Protein	■■■■
Calcium	■■■■
Phosphorus	■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■
Vitamin B_1	■■
Vitamin C	■■■■■
Vitamin D	Unknown.
Vitamin G	■■■■
Reaction:	Alkaline: 11.6
Bulk:	Fair.
Carbohydrate:	24 gms. (In dried apricots, carbohydrate is 66.9%; in fresh, 12.9%; canned in sugar syrups, 21.4%).

There is a loss of vitamin A in drying, some loss of B and an appreciable loss of C and G. Canning is not destructive to A or G.

ARTICHOKE, FRENCH OR BUR

Average helping: 1 medium 3″ diameter, edible portion, (250 gms. or 8.8 oz.)

Calories	■■■■■■
Protein	■■■■■■■■■■■■■
Calcium	■■■■■■■■■■■■■■■
Phosphorus	■■■■■■■■■■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■■■■■■■■■■■■
Vitamin B_1	■■■■■■■■■■■■■■■■■■■■■
Vitamin C	■■■
Vitamin D	Unknown.
Vitamin G	Unknown.
Reaction:	Alkaline.
Bulk:	Present.
Carbohydrate:	30 gms.

A valuable source of minerals and vitamins.

ASPARAGUS, GREEN*

Average helping: 6 stalks 5″ long, raw, edible portion (50 gms. or 1.8 oz.)

Calories	■
Protein	■■■
Calcium	■
Phosphorus	■■
Iron	■■■■■
Vitamin A	■■■■■■■■
Vitamin B_1	■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■■
Reaction:	Alkaline.
Bulk:	Good.
Carbohydrate:	About 2.0 gms.

*Bleached asparagus has less vitamin A than green.

AVOCADO, NATIVE

Average helping: ½ small (100 gms. or 3.5 oz.)

Calories	■■■■■■■■■■■■
Protein	■■■
Calcium	■■■■■■■■
Phosphorus	■■■■
Iron	■■■■■■■ *
Vitamin A	■■
Vitamin B_1	■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■■■■■■■
Reaction:	Unknown.
Bulk:	Present.
Carbohydrate:	7.8 gms.

Outstanding in iron and vitamins.

*West Indian avocado is reported higher than the native in iron, but the native apparently has a higher vitamin C value.

BACON, COOKED*

Average helping: 4-5 small slices, broiled (15 gms. or 0.5 oz.)

Calories	■■■■
Protein	■■■
Calcium	Scarcely any.
Phosphorus	■■■
Iron	■■■■■
Vitamin A	None.
Vitamin B_1	■ to ■■ According to amount of lean.
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Acid: 1.9.
Bulk:	None.
Carbohydrate:	None.

*Uncooked bacon has nearly twice the calorie value because of its greater fat content.

BANANA

Average helping: 1 medium (100 gms. or 3.5 oz. edible portion)

Calories	■■■■
Protein	■■■
Calcium	■
Phosphorus	■■■
Iron	■■■■■■
Vitamin A	■■■■■■■
Vitamin B_1	■■■
Vitamin C	■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■■■■
Reaction:	Alkaline: 8.
Bulk:	None.
Carbohydrate:	23 gms.

BEANS, DRIED

Average helping: ½ cup, cooked (100 gms. or 3.5 oz.)

Calories	■■■■
Protein	■■■■■■■■■■■■
Calcium	■■■■■■
Phosphorus	■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	None in navy, kidney, present in lima and yellow soy bean.
Vitamin B_1	■■■■■■■■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■
Reaction:	Alkaline.
Bulk:	Good.
Carbohydrate:	18.6 gms.

Kidney, navy and lima of approximately same value. Pinto beans (Mexican) are reported to be especially rich in vitamin B_1.

Yellow soy beans are superior to other beans in having excellent quality protein, also a high calcium and vitamin B_1, content.

Protein	■■■■■■■■■■■■■■■■■■■■■
Calcium	■■■■■■■■■■
Vitamin B_1	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■

BEANS, FRESH LIMA

Average helping: ½ cup, shelled (100 gms. or 3.5 oz.)

Calories	■■■■■
Protein	■■■■■■■■■■■■■
Calcium	■■■■
Phosphorus	■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■■■■■■■■■■■
Vitamin B_1	■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■ (Cooked)
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■
Reaction:	Alkaline: 14
Bulk:	Good.
Carbohydrate:	23.5 gms.

BEANS, GREEN STRING

Average helping: ¾ cup, 1″ pieces cooked (100 gms. or 3.5 oz.)

Calories	■■
Protein	■■■■
Calcium	■■■■■■■■
Phosphorus	■■■■■
Iron	■■■■■■■■■■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin B_1	■■■■■ (Raw) ■■■ (Cooked)
Vitamin C	■■■■■■■■■■■■■■■■■ (Raw) ■■■■■ (Cooked)
Vitamin D	None.
Vitamin G	■■■■■
Reaction:	Alkaline: 5.4
Bulk:	Good.
Carbohydrate:	7.7 gms.

BEEF, LEAN

Average helping: Piece 2″x3″x1″ (100 gms. or 3.5 oz.)

Calories	■■■■■■
Protein	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Calcium	■■
Phosphorus	■■■■■■■■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■
Vitamin B_1	■■■■■■■■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■■■
Reaction:	Acid: 11
Bulk:	None.
Carbohydrate:	None.

BEETS AND BEET GREENS

Average helping: 2 beets, 2″ in diameter or ½ cup, diced (100 gms. or 3.5 oz.)
½ cup greens, steamed (100 gms. or 3.5 oz.)

	Beets	Greens
Calories	■■	■
Protein	■■■	■■■■
Calcium	■■■■	Oxalic acid present: calcium not assimilable.
Phosphorus	■■■■	■■■■
Iron	■■■■■■■■	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	None.	■■■■■■■■■■■■■■■■■■■■■■■■ x 10
Vitamin B_1	■■■	■■■■
Vitamin C	■■■■■■■■■	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2 (Raw)
Vitamin D	None.	Unknown.
Vitamin G	■■	■■■■■■■■■■■■■■■■■■■■■■
	Alkaline: 11	Alkaline: 27.0
Bulk:	Excellent.	Excellent.
Carbohydrate:	9.6 gms.	5.6 gms.

BISCUIT

Average helping: 2 small (37 gms. or 1.3 oz.)

Calories	■■■■
Protein	■■■■
Calcium	■■■
Phosphorus	■■■
Iron	■■
Vitamin A	■
Vitamin B_1	■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■
Reaction:	Acid.
Bulk:	None.
Carbohydrate:	14 gms.

Recipe: 2 cups flour
4 teaspoons of baking powder
1 teaspoon salt
1 tablespoon lard
1 tablespoon butter (butter has A value; lard has none).
¾ cup milk

BLACKBERRIES

Average helping: ¾ cup, scant (100 gms. or 3.5 oz.)

Calories	■■
Protein	■■■
Calcium	■■■■■
Phosphorus	■■■
Iron	■■■■■■■■■■
Vitamin A	■■■■
Vitamin B_1	■■■
Vitamin C	■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	Unknown.
Reaction:	Alkaline: 4.2
Bulk:	Fair.
Carbohydrate:	11.9 gms.

BREAD

Made with water

Average helping: 1 slice, average (30 gms. or 1.1 oz.)

Calories	■■■ White, whole wheat, rye.	
Protein	■■■■ White, whole wheat, rye.	
Calcium	■ White, rye.	■■ Whole wheat.
Phosphorus	■■■ White.	■■■■ Whole wheat, rye.
Iron	■■■ White.	■■■■■ Whole wheat, rye.
Vitamin A	Trace, white, whole wheat, rye.	
Vitamin B_1	■ White.	
	■■■■■ Whole wheat or whole rye (Pumpernickel).	
	■■ Rye. (½ rye and ½ wheat flour).	
Vitamin C	None, white, whole wheat, rye.	
Vitamin D	None*, white, whole wheat, rye (unless artifically added.)	
Vitamin G	None, white.	
	Present, rye.	
	■ Whole wheat.	
Reaction:	Acid.	
Bulk:	None, white, rye.	
	Present, whole wheat.	
Carbohydrate:	Approximately 16 gms. White, whole wheat, rye.	

*When vitamin D is artifically added to breads, it is declared on the label.

BROCCOLI*

Average helping: ⅞ cup, steamed (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■
Iron	■■■■■■■■■■■■■■
Vitamin A	■■ x 4
Vitamin B_1	■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 4 (Raw)
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■ to ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 6
Reaction:	Alkaline: 5.8
Bulk:	Excellent.
Carbohydrate:	5.5 gms.

*Broccoli is greatly superior to both cabbage and Brussels sprouts in calcium content. About equal to cauliflower.

BRUSSELS SPROUTS

Average helping: 7 sprouts, 1½″ diameter (100 gms. or 3.5 oz.)

Calories	■■
Protein	■■■■■■■■
Calcium	■■■■
Phosphorus	■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■
Vitamin A	■■■■■■■■■
Vitamin B_1	■■■■■■■■■■■■
Vitamin C	■■ x20 (Raw)
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■■■■
Reaction:	Alkaline: 6
Bulk:	Excellent.
Carbohydrate:	8.9 gms

Superior to cabbage in vitamin A because the leaves are green. Vitamin loss depends on the method of cooking.

BUTTER

Average helping: 1 square 1¼″x1¼″ or ½ tablespoon (7 gms. or 0.3 oz.)

Calories	■■
Protein	Scarcely any.
Calcium	Scarcely any.
Phosphorus	Scarcely any.
Iron	Scarcely any.
Vitamin A	■■■■■
Vitamin B_1	None.
Vitamin C	None.
Vitamin D	Average, 5.6 International Units.
Vitamin G	None.
Reaction:	Neutral.
Bulk:	None.
Carbohydrate:	None.

BUTTERMILK

Average helping: 1 cup (241 gms. or 8.5 oz. by weight)

Calories	■■■
Protein	■■■■■■■■■■■■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■■■■■■■■■■■■■■■■
Iron	■■■■■■■
Vitamin A	None to trace.
Vitamin B_1	■■■■■■■■■■
Vitamin C	Variable to none pasteurized.
Vitamin D	None.
Vitamin G	■■■■■■■■■■■■■■■
Reaction:	Alkaline: 5.2.
Bulk:	None.
Carbohyrate:	12.0 gms.

CABBAGE, YOUNG, PARTLY GREEN*

Average helping: 1⅛ cup, raw, chopped (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■
Calcium	■■■■■■■
Phosphorus	■■■
Iron	■■■■
Vitamin A	■
Vitamin B_1	■■■■■■■■
Vitamin C	■■ x 2 (Raw)
Vitamin D	None.
Vitamin G	■■■■■■■■
Reaction:	Alkaline: 6
Bulk:	Excellent.
Carbohydrate:	5.3 gms.

*Bleached cabbage is lacking in vitamin A, has less B_1 and G. Vitamin C, however, may be higher in the bleached cabbage.

CAKE

2-egg, plain

Average helping: 1 piece, 2″x2¼″x1″ (26 gms. or 0.9 oz.)

Calories	■■■■
Protein	■■■
Calcium	■■■■■■
Phosphorus	■■
Iron	■■
Vitamin A	■■■■■
Vitamin B_1	■
Vitamin C	None.
Vitamin D	None.
Vitamin G	■
Reaction:	Acid.
Bulk:	None.
Carbohydrate:	Approximately 8 gms.

RECIPE

1 cup sugar
½ cup butter
2 eggs
½ cup milk
2 cups flour
3½ teaspoons baking powder
½ teaspoon salt
½ teaspoon vanilla

CANTALOUPE

Average helping: ½ melon 5″ diameter (183 gms., edible portion, or 6.5 oz.)

Calories	■■
Protein	■■■
Calcium	■■■■
Phosphorus	■■
Iron	■■■■■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■ to ■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin B_1	■■■■■■■
Vitamin C	■■
Vitamin D	Unknown.
Vitamin G	■■■■■■■■
Reaction:	Alkaline: 7.5.
Bulk:	Good.
Carbohydrate:	8.2 gms. (Muskmelon 11 gms.)

CARROTS

Average helping: ¾ cup of ½″ cubes or 1 large (100 gms. or 3.5 oz.)

Calories	■■
Protein	■■■
Calcium	■■■■■■■
Phosphorus	■■■■
Iron	■■■■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2
Vitamin B_1	■■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■
Vitamin D	None.
Vitamin G	■■■■■
Reaction:	Alkaline: 14.
Bulk:	Good.
Carbohydrate:	9.3 gms.

CAULIFLOWER

Average helping: 1 cup, chopped, raw (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■■
Calcium	■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■
Iron	■■■■■■■■■■
Vitamin A	■
Vitamin B_1	■■■■■■■■■ to ■■■■■■■■■■■■■
Vitamin C	■■ x 3
Vitamin D	Unknown.
Vitamin G	■■■■■ to ■■■■■■■■■■
Reaction:	Alkaline.
Bulk:	Good.
Carbohydrate:	4.7 gms. (with leaf stalk); 2.7 gms. buds.

CELERY

Average helping: ¾ cup ¼″ piece (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■
Calcium	■■■■■■■■■■■■
Phosphorus	■■■■
Iron	■■■■■■
Vitamin A	Trace in white. ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ Green.
Vitamin B_1	■■
Vitamin C	■■■■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 7.8.
Bulk:	Good.
Carbohydrate:	3.7 gms.

CHEESE, AMERICAN

Average helping: slice, 4″x3¼″x⅛″ (28.5 gms. or 1 oz.)

Calories	■■■■
Protein	■■■■■■■■■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■■■■■■■■■■■■■
Iron	■■■■
Vitamin A	■■■■■■■■■■■■
Vitamin B_1	■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■■
Reaction:	Acid: 1.1.
Bulk:	None.
Carbohydrate:	0.5 gms.

CHEESE, COTTAGE

Average helping: 5½ tablespoonfuls or ½ cup, scant (100 gms. or 3.5 oz.)

Calories	■■■■
Protein	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Calcium	■■■■■■■■■■■■
Phosphorus	■■■■■■■■■■■■■■■■■■■■■■■■■
Iron	Unknown.
Vitamin A	■■■■■■■■■■■■
Vitamin B_1	■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	Good.
Reaction:	Unknown.
Bulk:	None.
Carbohydrate:	4.3 gms.

CHEESE, PHILADELPHIA CREAM TYPE

Average helping: ½ package 1⅜"x2⅛"x¾" (43 gms. or 1.5 oz.)

Calories	■■■■■■■
Protein	■■■■■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■■■■■
Iron	■■
Vitamin A	■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin B_1	■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Unknown.
Bulk:	None.
Carbohydrate:	0.8 gms.

CHICKEN

Average helping: ½ small broiler (100 gms. or 3.5 oz.)

Calories	■■■■■
Protein	■■■
Calcium	■■
Phosphorus	■■■■■■■■■■■■■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	None to trace.
Vitamin B_1	■■■■■ Dark meat. ■■■■■■■■■■ White meat.
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	Excellent.
Reaction:	Acid: 10.7.
Bulk:	None.
Carbohydrate:	None.

CHOCOLATE, UNSWEETENED, SWEETENED, MILK CHOCOLATE* AND COCOA**

Average helping: 1 square, unsweetened (28 gms. or 1 oz.) Sweetened, (28 gms. or 1 oz.) Hershey bar*, plain (28 gms. or 1 oz.)

	Unsweetened	Sweetened	Milk Chocolate	Cocoa
Calories	■■■■■■■	■■■■■■	■■■■■■■	■■■■■■
Protein	■■■	■	■■■■	■■■■■■■■■■■
Calcium	■■■■	■■	■■■■■■■■	■■■■■
Phosphorus	■■■■■■■■■■■■	■■■■■■	■■■■■	■■■■■■■■■■■■■■■■■■
Iron	■■■■■■■■	■■■■	■■■■■■	■■■■■■■■
Vitamin A	None.	Present.	None.	None.
Vitamin B_1	None.	None.	Present.	None.
Vitamin C	None.	None.	None.	None.
Vitamin D	None.	None.	Unknown.	None.
Vitamin G	None.	None.	Present.	None.
Reaction:	Alkaline: 1.6	Alkaline.	Alkaline.	Unknown
Bulk:	None.	None.	None.	None.
Carbohydrate:	5.1 gms.	17.0 gms.	16.3 gms.	10.8 gms.

*Manufacturer states the chocolate contains 23½% whole milk solids.
**Cocoa is chocolate with the fat removed.

COFFEE

No food value except sugar, milk or cream; each of which must be calculated separately.

"Caffeine and Theobromine in Average Servings of Beverages:

"Coffee, Tea and Cocoa as Commonly Prepared

	Amounts Used in Preparation of Average 6 oz. Serving	Caffeine and Theobromine Grains
"Coffee	1 tablespoonful	1.8
"Coffee	2 tablespoonfuls	3.6
"Tea	1 tablespoonful	1.8
"Cocoa	1½ tablespoonfuls	1.2
"Cocoa	⅔ tablespoonful	0.5"

Accepted Food and Their Nutritional Significance, Council on Foods of the American Medical Association, 1939, page 362.

"Whether the constant use of caffeine beverage is harmful, harmless or merely indifferent is still a debated question. Perhaps the majority of workers believe that normal adults may indulge in moderate amounts without injury or possibly even with benefit. Others believe that the continued use of the drug, even in moderate amounts, may have a deleterious effect, especially on the nervous system. There is fairly unanimous agreement that excessive amounts are definitely injurious and that even moderate amounts are contraindicated for neurotic or nervous persons and in certain pathologic conditions.

"The question of whether or not beverages containing caffeine and theobromine may be used by children is perennial. Unfortunately, it does not seem possible to specify a maximum amount of caffeine and theobromine which may be present in a product recommended for children. The habits and customs of different people vary greatly, and the problem is complex. It is generally recognized that unrestricted quantities of tea, coffee and other purine-containing beverages are not desirable for children. It is likewise generally recognized that a child should drink milk. Because a child will take only a limited amount of fluid in a day, it is important that coffee, tea and other purine-containing beverages do not replace milk."

Ibid., page 363.

"Coca-cola—Caffeine, 1.2 grains per 12 fluid oz., equivalent to 0.6 grains per 6 oz. bottle.

"Royal Crown cola—Caffeine, 0.5 grains per 12 fluid oz.

"Pepsicola—'Secret formula.'

"Double cola—Inquiry unanswered."

Consumers' Research Bulletin,
Page 5, August, 1940.

COLLARDS

Average helping: ½ cup steamed (100 gms. or 3.5 oz.)

Calories	■■
Protein	■■■■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■■
Iron	■■■■■■■■■■■■■■■■■
Vitamin A	■■ x 4
Vitamin B_1	■■■■■■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2 Raw.
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■■■■
Reaction:	Unknown.
Bulk:	Excellent.
Carbohydrate:	7.2 gms.

CORN

Average helping: ½ cup, fresh, or 2 ears 6″ long (100 gms. or 3.5 oz.)

Calories	■■■■
Protein	■■■■■■■
Calcium	■
Phosphorus	■■■■■■■■■
Iron	■■■■■
Vitamin A	Present in white. ■■■■■■■■■■■■ Yellow
Vitamin B_1	■■■■■■■■■ White and yellow.
Vitamin C	■■■■■■■■■■■■■■■■ Raw*.
Vitamin D	None.
Vitamin G	■■■■■■
Reaction:	Acid: 2.0
Bulk:	Fair.
Carbohydrate:	20.5 gms.

*Destroyed for the most part in cooking.

CORN BREAD

Average helping: 1 muffin 2¾" diameter x 1" (38 gms. or 1.4 oz.)

Calories	■■■■■■
Protein	■■■■■■■
Calcium	■■■■■
Phosphorus	■■■■■■
Iron	■■■■■
Vitamin A	■■■■■■■■■■ (None if white, except that due to egg)
Vitamin B_1	■■■■■■■
Vitamin C	None.
Vitamin D	None.
Vitamin G	■■
Reaction:	Acid.
Bulk:	None.
Carbohydrate:	21.5 gms.

Recipe:

2 cups YELLOW corn meal, unbolted
1 egg
4 teaspoons baking powder
1 teaspoon salt
1 cup buttermilk
2 tablespoons shortening

Bake to ten muffins, approximately 2¾" diameter weighing about 38 gms.

CORN STARCH

Average helping: 1 tablespoon (10 gms. or 0.35 oz.)

Calories	■
Protein	None.
Calcium	None.
Phosphorus	None.
Iron:	None.
Vitamin A	None.
Vitamin B_1	None.
Vitamin C	None.
Vitamin D	None.
Vitamin G	None.
Reaction:	Acid.
Bulk:	None.
Carbohydrate:	9 gms

COWPEAS, DRIED

(Black-Eyed Peas)

Average helping: ½ cup (100 gms. or 3.5 oz.)

Calories	[redacted]
Protein	[redacted]
Calcium	[redacted] *
Phosphorus	[redacted] *
Iron	[redacted] x 2
Vitamin A	[redacted] Dried.
Vitamin B_1	[redacted] Dried.
Vitamin C	Dried, unknown.
	[redacted] Fresh.
Vitamin D	Unknown.
Vitamin G	[redacted] Dried.
Reaction:	Unknown.
Bulk:	Unknown.
Carbohydrate:	61.6 gms., dried.

*Sample analyzed by Miss Olive Sheets, Mississippi Agricultural Experiment Station, State College, Mississippi.

CRAB MEAT

Average helping: ⅝ cup (100 gms. or 3.5 oz.)

Calories	[redacted]
Protein	[redacted]
Calcium	[redacted]
Phosphorous	[redacted]
Iron	[redacted]
Vitamin A	Unknown.
Vitamin B_1	[redacted] *
Vitamin C	None.
Vitamin D	Present.
Vitamin G	[redacted] *
Reaction:	Acid
Bulk:	None.
Carbohydrate:	1.3 gms.

Excellent source of protein for low calorie diets.

*In a communication from F. F. Johnson, Acting Chief, Division of Fishery Industries, U. S. Dept. of Interior, crab meat is stated to contain 24 International Units of B_1 and 0.15 milligram of riboflavin per 100 gms.

CRACKERS, SODA*

Average helping 4 soda (24 gms. or 0.9 oz.)

Calories	■■■■
Protein	■■■■
Calcium	■
Phosphorus	■■
Iron	■■■■
Vitamin A	None.
Vitamin B_1	None.
Vitamin C	None.
Vitamin D	None.
Vitamin G	None.
Reaction:	Acid: 2.0
Bulk:	None.
Carbohydrate:	18 gms.

*For all practical purposes, 4 soda crackers, 6 saltines, and 2 graham crackers may be considered equal except that graham crackers have a vitamin B_1 content.

CRANBERRIES, FRESH

Average helping: 1 cup raw, ½ cup cooked (100 gms. or 3.5 oz.)

Calories	■■■■ This does not count sugar added in cooking.
Protein	■
Calcium	■■
Phosphorus	■
Iron	■■■■
Vitamin A	■
Vitamin B_1	Unknown.
Vitamin C	■■■■■■■■■■■■■■■■■■■■ Raw*.
Vitamin D	Unknown.
Vitamin G	None.
Reaction:	Acid.
Bulk:	Excellent if hulls are not removed.
Carbohydrate:	11.3 gms., not counting sugar used in cooking.

*Loss in cooking would likely be little since cranberries are very acid and cooking time is short.

CREAM, BREAKFAST AND WHIPPING

Butterfat, 18.5% and 40% respectively

Average helping: 1 tablespoon, whipped 1¾ tablespoon (16 gms. or 0.6 oz.)

Calories	■ Breakfast.	■■ Whipping.
Protein	■ Breakfast.	■ Whipping.
Calcium	■■ Breakfast.	■■ Whipping.
Phosphorus	■ Breakfast.	■ Whipping.
Iron	Trace.	Trace.
Vitamin A	■■ Breakfast.	■■■■ Whipping.
Vitamin B_1	Trace.	Trace.
Vitamin C	Present but destroyed by pasteurization.	
Vitamin D	Present.	
Vitamin G	Unknown.	
Reaction:	Neutral	
Bulk:	None.	
Carbohydrate:	0.6 gm. Breakfast	0.5 gm. Whipping.

CUCUMBERS

Average helping: 7 slices ⅛″ thick x 1½″ diameter (50 gms. or 1.8 oz.)

Calories	Negligible.
Protein	■
Calcium	■
Phosphorus	■
Iron	■■
Vitamin A	Negligible.
Vitamin B_1	■■
Vitamin C	■■■■■■
Vitamin D	Unknown.
Vitamin G	Negligible.
Reaction:	Alkaline: 3.9
Bulk:	Fair.
Carbohydrate:	1.4 gms.

Excellent in reducing diets.

DATES, DRIED

Average helping: 12-14 without stones (100 gms. or 3.5 oz.)

Calories	■■■■■■■■■■■■■
Protein	■■■■
Calcium	■■■■■■■■■■
Phosphorus	■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■■
Vitamin B_1	■■■■■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 9
Bulk:	Good.
Carbohydrate:	75.4 gms.

EGG

Average helping: 1 whole (53 gms. or 1.9 oz., as purchased)

Calories	■■■■
Protein	■■■■■■■■■■■
Calcium	■■■■■
Phosphorus	■■■■■■■■■■
Iron	■■■■■■■■■■■■■■
Vitamin A	■■■■■■■■■
Vitamin B_1	■■■■
Vitamin C	None.
Vitamin D	Present.
Vitamin G	■■■■■■■■
Reaction:	Acid: 5.8
Bulk:	None.
Carbohydrate:	0.4 gms.

Excellent protein source; rich in minerals and vitamins not usually found in proteins.

EGG, WHITE AND YOLK

Average helping: 1 white (28 gms. or 1 oz.); 1 yolk (16 gms. or 0.6 oz.)

Calories	■ White.	■■ Yolk.
Protein	■■■■■ White.	■■■■ Yolk.
Calcium	■ White.	■■■■ Yolk.
Phosphorus	Scarcely any, white.	■■■■■■■■■ Yolk.
Iron	Scarcely any, white.	■■■■■■■■■■■■■■■ Yolk
Vitamin A	None, white.	■■■■■■■■■ Yolk.
Vitamin B_1	Trace, white.	■■■■ Yolk.
Vitamin C	None, white.	None, yolk.
Vitamin D	None, white.	Present yolk.
Vitamin G	■■■■ White.	■■■■■ Yolk.
Reaction:	Acid: 1.7	Acid: 3.4
Bulk:	None.	None.
Carbohydrate:	0.2 gm.	0.1 gm.

Egg white is practically a pure protein; good source of protein in a low calorie diet.

Except for the protein value of the egg white, most of the food value of the egg lies in the yolk. On reducing diets, increase the ratio of egg whites to egg yolks.

EGGPLANT

Average helping: 2 slices, 4″ diameter, ¾″ thick or ½ cup (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■
Calcium	■■
Phosphorus	■■■
Iron	■■■■■
Vitamin A	■
Vitamin B_1	■■■
Vitamin C	■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 4.4
Bulk:	Fair.
Carbohydrate:	5.5 gms.

ENDIVE*, CHICORY, ESCAROLE

Average helping: 10 small leaves (25 gms. or 0.8 oz.)

Calories	■
Protein	■■■
Calcium	■■■■
Phosphorus	■■
Iron	■■■■■■■■■■■■■■
Vitamin A	■■ x6 if green
Vitamin B_1	Present.
Vitamin C	■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■
Reaction:	Alkaline: 4.0
Bulk:	Good.
Carbohydrate:	4.0 gm.

**Cichorium Endiva.*

FARINA
Dark, light

Average helping: ¾ cup, cooked (170 gms. or 6 oz.) 3 tablespoons, uncooked (28 gms. or 1 oz.)

Calories	■■■■ Same for both kinds.	
Protein	■■■■■■■ Same for both kinds.	
Calcium	■■ Dark.	■ Light.
Phosphorus	■■■■■■■■■■■ Dark.	■■■ Light.
Iron	■■■■■■■■■■■■■■ Dark.	■■ Light.
Vitamin A	Trace, dark.	None, light.
Vitamin B_1	■■■ Dark.	■ Light.
Vitamin C	None.	
Vitamin D	Unknown.	
Vitamin G	■■■ Dark.	Trace in light.
Reaction:	Acid.	
Bulk:	None in light. Fair in dark.	
Carbohydrate:	22 gms.	

Refer also to the difference between white and whole grain breads.

Cracked wheat equivalent to dark farina.

FIGS, DRIED

Average helping: 6 medium (100 gms. or 3.5 oz.)

Calories	■■■■■■■■■■■■
Protein	■■■■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■
Vitamin B_1	■■■■■■■■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■■
Reaction:	Alkaline: 9.9
Bulk:	Excellent.
Carbohydrate:	68.4 gms.

Excellent source of calcium and iron.

FISH

Average of 15 varieties

Average helping: piece 3″x2½″x1″ (100 gms. or 3.5 oz.)

Calories	■■■■
Protein	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Calcium	■■■■■■■
Phosphorus	■■■■■■■■■■■■■■■■■■■■■
Iron	■■■■■■■
Vitamin A	Present in some.
Vitamin B_1	■■■■■
Vitamin C	None.
Vitamin D	Present in some.
Vitamin G	Present.
Reaction:	Acid: 9.1
Bulk:	None.
Carbohydrate:	None.

GELATIN, GRANULATED

Average helping: 1 tablespoon (9 gms. or 0.3 oz.)

Calories	■
Protein	■■■■■■■■■■■■
Calcium	None.
Phosphorus	None.
Iron	None.
Vitamin A	None.
Vitamin B_1	None.
Vitamin C	None.
Vitamin D	None.
Vitamin G	None.
Reaction:	Unknown.
Bulk:	None.
Carbohydrate:	None.

A pure protein.

GRAPEFRUIT

Average helping: ½ large (edible portion, 213 gms. or 7.5 oz.)

Calories	■■■■
Protein	■■■
Calcium	■■■■■■■
Phosphorus	■■■■
Iron	■■■■■■
Vitamin A	Trace.
Vitamin B_1	■■■■■■■■■
Vitamin C	■■■ x3.
Vitamin D	Unknown.
Vitamin G	Trace.
Reaction:	Alkaline: 8.9
Bulk:	Present.
Carbohydrate:	21.5 gms.

GRAPES AND GRAPE JUICE

Average helping: 1 small bunch (100 gms. or 3.5 oz.) ½ cup grape juice (100 gms. or 3.5 oz.)

Calories	■■■ Grapes.	■■■ Grape juice.
Protein	■■■	Trace.
Calcium	■■■	■■
Phosphorus	■■■	■
Iron	■■■■■■■	■■■
Vitamin A	■■	None.
Vitamin B_1	■■	Trace.
Vitamin C	■■■■■	■■
Vitamin D	Unknown.	None.
Vitamin G	■	None.
Reaction:	Alkaline.	Alkaline.
Bulk:	Good.	None.
Carbohydrate:	14.9 gms.	18.2 gms.

GRITS

Average helping: 3 tablespoons, uncooked, or 4/5 cup, cooked (28 gms., uncooked, or 1 oz.)

Calories	■■■■	
Protein	■■■■	
Calcium	■	
Phosphorus	■■	
Iron	■■■	
Vitamin A	None in white.	■■■■ Yellow.
Vitamin B_1	None unless the whole grain is used.	■■■■■■ Whole grain.
Vitamin C	None.	
Vitamin D	None.	
Vitamin G	Fair.	
Reaction:	Acid.	
Bulk:	None.	
Carbohydrate:	21 gms.	

HAM, LEAN

Average helping: 1 slice 5″x4″x1/8″ (38 gms. or 1.3 oz.)

Calories	■■■
Protein	■■■■■■■■■■■■■■■
Calcium	■
Phosphorus	■■■■■■■■
Iron	■■■■■■■■■■■■■
Vitamin A	Present.
Vitamin B_1	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ *
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■■
Reaction:	Acid: 3.7
Bulk:	None.
Carbohydrate:	0.1

*Cooking loss 10 to 50 per cent.

ICE CREAM
(Commercial)

Average helping: 1/4 cup (46 gms. or 1.6 oz.)

Calories	■■■■■
Protein	■■■■
Calcium	■■■■■■■■■
Phosphorus	■■■■■
Iron	■■
Vitamin A	■■■■■
Vitamin B_1	■
Vitamin C	None.
Vitamin D	Present.
Vitamin G	■■
Reaction:	Alkaline.
Bulk:	None.
Carbohydrate:	Approximately 14 gms.

Ice cream naturally varies according to the formula used, but commercial cream, plain, is usually 10% butterfat; fruit or nut ice cream, 8%. The weight varies according to the commercial practice of "blowing up" with air or a gas.

KALE

Average helping: 1⅛ cups, raw; ½ cup, steamed 100 gms. or 3.5 oz.)

Calories	■■
Protein	■■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■ x 10
Vitamin B_1	■■■■■■■■■■■■■
Vitamin C	■■ x 4 Raw.
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 7.6.
Bulk:	Good.
Carbohydrate:	7.2 gms.

LAMB CHOP, BROILED

Average helping: 1 chop 2″x1½″x¾″ (edible portion, 46 gms. or 1.6 oz.)

Calories	■■■■■ (If lean; fat increases calories)
Protein	■■■■■■■■■
Calcium	Negligible.
Phosphorus	■■■■■
Iron	■■■■■■■■
Vitamin A	Small amount in fat.
Vitamin B_1	■■■■■■■■■■■■■■■■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■■
Reaction:	Acid.
Bulk:	None.
Carbohydrate:	None.

LEMON

Average helping: 1 tablespoon (13 gms. or 0.5 oz.)

Calories	Trace.
Protein	None.
Calcium	Trace.
Phosphorus	Trace.
Iron	Trace.
Vitamin A	None.
Vitamin B_1	Trace.
Vitamin C	■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	Trace.
Reaction:	Alkaline.
Bulk:	None.
Carbohydrate:	1.2 gms.

Volume for volume, orange juice, grapefruit juice, lime, and lemon juice are of about equal C value.

LETTUCE

Average helping: 1 large leaf (10 gms. or 0.35 oz.)
2 leaves of Romaine or garden lettuce.

	Bleached	Romaine.
Calories	Trace.	Trace.
Protein	Trace.	Trace.
Calcium	Trace.	■
Phosphorus	Trace.	Trace.
Iron	Trace.	■
Vitamin A	Trace.	■■
Vitamin B_1	■	■
Vitamin C	■■	■■■■
Vitamin D	Unknown.	Unknown.
Vitamin G	Negligible	■
Reaction:	Alkaline: 0.1.	Alkaline: 0.1.
Bulk:	Excellent.	Excellent.
Carbohydrate:	0.3 gms.	0.3 gms.

LIVER, BEEF

Average helping: 1 piece 3″x3″x⅝″ (100 gms. or 3.5 oz.)

Calories	■■■■■
Protein	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Calcium	■■
Phosphorus	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Iron	■■ x 2
Vitamin A	■■ x 5
Vitamin B_1	■■■■■■■■■■■■■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2 Present if fresh and uncooked.
Vitamin D	145 I. U.
Vitamin G	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2
Reaction:	Acid: 10.5
Bulk:	None.
Carbohydrate:	6.0 gms.

MACCARONI, SPAGHETTI

Average helping: ¼ cup 1″ pieces uncooked or ¾ cup cooked (30 gms. or 1.1 oz., uncooked; 136 gms. or 5.8 oz., cooked)

Calories	■■■■
Protein	■■■■■
Calcium	■
Phosphorus	■■■■
Iron	■■■■
Vitamin A	None.
Vitamin B_1	■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	Unknown.
Reaction:	Acid: 3.2
Bulk:	None.
Carbohydrate:	22.2 gms.

MILK POWDER (SKIMMED)

Average helping: 28 gms. or 1 oz., which is equivalent to 1⅛ cup skim milk.

Calories	[redacted]
Protein	[redacted]
Calcium	[redacted]
Phosphorus	[redacted]
Iron	[redacted]
Vitamin A	Trace.
Vitamin B_1	[redacted]
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	[redacted]
Reaction:	Alkaline.
Bulk:	None.
Carbohydrate:	14.7 gms.

MILK, WHOLE

Average helping: 1 cup or average glass (244 gms. or 8.6 oz.)

Calories	[redacted]
Protein	[redacted]
Calcium	[redacted]
Phosphorus	[redacted]
Iron	[redacted]
Vitamin A	[redacted]
Vitamin B_1	[redacted]
Vitamin C	[redacted] to [redacted] Raw.*
Vitamin D	Present in variable amount. (2-7 International Units.)
Vitamin G	[redacted] to [redacted]
Reaction:	Alkaline: 5.5.
Bulk:	None.
Carbohydrate:	12 gms.

*Destruction in pasteurization variable.

MOLASSES, CANE

Average helping: 1/3 cup or 4½ tablespoons (100 gms. or 3.5 oz.)

Calories	■■■■■■■■■■■
Protein	■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2
Vitamin A	None.
Vitamin B_1	None.
Vitamin C	None.
Vitamin D	None.
Vitamin G	None.
Reaction:	Alkaline.
Bulk:	None.
Carbohydrate:	55-65 gms. (Dark, 55 gms.; medium, 60 gms.; light, 65 gms.)

Molasses is the concentrated cane juice from which raw cane sugar has been removed. It is not cane syrup.

MUSTARD GREENS

Average helping: ¾ cup, steamed (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■■■
Iron	■■
Vitamin A	■■ x 6
Vitamin B_1	■■■■■■■■■
Vitamin C	■■ x 5 Raw.
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■■■■■■■■
Reaction:	Alkaline.
Bulk:	Good.
Carbohydrate:	4 gms.

OATS, ROLLED

Average helping: 1/3 cup, uncooked; ¾ cup, cooked (30 gms. or 1.1 oz., uncooked; 136 gms. or 4.8 oz. cooked.)

Calories	■■■■■
Protein	■■■■■■■
Calcium	■■■
Phosphorus	■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■
Vitamin A	Trace.
Vitamin B_1	■■■■■■■■ to ■■■■■■■■■■■■■■■■
Vitamin C	None.
Vitamin D	None.
Vitamin G	■■
Reaction:	Acid: 4.8
Bulk:	Fair.
Carbohydrate:	20.5 gms.

OILS

Average helping: 1 tablespoon (11 gms. or 0.4 oz.)

Calories	■■■■
Protein	None.
Calcium	None.
Phosphorus	None.
Iron	None.
Vitamin A	None, or insignificant amount except cod liver oil or other fish oils.*
Vitamin B_1	None.
Vitamin C	None.
Vitamin D	Present in good amount only in cod liver oil or other fish oils.
Vitamin G	None.
Reaction:	Neutral.
Bulk:	None.
Carbohydrate:	None.

*1 tablespoon of cod liver oil U.S.P. supplies a minimum of 9350 I.U. of vitamin A. Labels should be checked for high potency oils.

OKRA

Average helping: ½ cup or 5 large or 10 small pods (100 gms. or 3.5 oz.)

Calories	■■
Protein	■■■■
Calcium	■■■■■■■■■■■■
Phosphorus	■■■■■■
Iron	■■■■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin B_1	■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin D	None.
Vitamin G	Fair.
Reaction:	Alkaline.
Bulk:	Excellent.
Carbohydrate:	7.4 gms.

An excellent source of bulk.

OLIVES, GREEN

Average helping: 4 medium (40 gms. stoned or 1.4 oz.)

Calories	■■
Protein	■
Calcium	■■■■■■■■
Phosphorus	Trace.
Iron	■■■■■■■■■■■■■■■■■
Vitamin A	■■■■
Vitamin B_1	Trace.
Vitamin C	None.
Vitamin D	None.
Vitamin G	None.
Reaction:	Alkaline.
Bulk:	Unknown.
Carbohydrate:	Approximately 1.2 gms. in green. (Ripe 0.8 gm.)

ONION

Average helping: 1 large or ½ cup sliced (100 gms. or 3.5 oz.)

	Mature	Green
Calories	■■	■■
Protein	■■■	■■■
Calcium	■■■■	■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■	■■
Iron	■■■■■	■■■■■■■■■■■■
Vitamin A	None.	■■■
Vitamin B_1	■■	■■
Vitamin C	■■■■■■■■■■■■■	■■■■■■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.	Unknown.
Vitamin G	■■■■	■■■■
Reaction:	Alkaline.	Alkaline.
Bulk:	Good.	Good.
Carbohydrate:	10.3 gms.	10.6 gms.

ORANGE

Average helping: 1 medium (156 gms. or 5.5 oz.)

Calories	■■	
Protein	■■■	
Calcium	■■	
Phosphorus	■■	
Iron	■■■■■	
Vitamin A	■ to ■■■■■■■■■■■■■	
Vitamin B_1	■■■■■■■■■	
Vitamin C	■■ x 2	
Vitamin D	Unknown.	
Vitamin G	■■■■	
Reaction:	Alkaline: 5.9	
Bulk:	Good—orange.	Juice—none.
Carbohydrate:	11.2 gms.	

Outstanding source of vitamin C. Orange juice twice the value of tomato juice in vitamin C, three times the value of pineapple juice, approximately equal to other citrus fruit.

OYSTERS

Average helping: 4 large or ⅓ cup solids (100 gms. or 3.5 oz.)

Calories	[redacted]
Protein	[redacted]
Calcium	[redacted]
Phosphorus	[redacted]
Iron	[redacted]
Vitamin A	[redacted] to [redacted]
Vitamin B_1	[redacted]
Vitamin C	[redacted] Raw.
Vitamin D	5 I. U.
Vitamin G	Present.
Reaction:	Acid: 11.0
Bulk:	None.
Carbohydrate:	5.9 gms.

One of the best sources of iodine.

PARSLEY

Average helping: 10 sprigs (10 gms. or 0.35 oz.)

Calories	Negligible.
Protein	[redacted]
Calcium	Unknown.
Phosphorus	Unknown.
Iron	[redacted] (Sample from New Orleans [redacted])*
Vitamin A	[redacted] x 2
Vitamin B_1	Unknown.
Vitamin C	[redacted]
Vitamin D	Unknown.
Vitamin G	Unknown.
Reaction·	Unknown.
Bulk:	Fair.
Carbohydrate:	0.9 gms.

*Sample analyzed by Miss Olive Sheets, Mississippi Agricultural Experiment Station, State College, Mississippi.

PEACHES

Average helping: 1 large half plus 1½ tablespoons juice (100 gms. or 3.5 oz.)*; fresh (100 gms. or 3.5 oz.)

	Canned	Fresh
Calories	■■■	■■
Protein	■	■
Calcium	■	■
Phosphorus	■	■■
Iron	■■	■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■■■■ x 2 Yellow	■■■■■■■■■■■■■■■■■■■■■■ x 2 Yellow
Vitamin B_1	■	■
Vitamin C	Somewhat less than fresh.	■■■■■■■■■■■■■■■■
Vitamin D	Unknown.	Unknown.
Vitamin G	■■	Unknown.
Reaction:	Alkaline: 4.7	Alkaline: 5.6
Bulk:	Present.	Present.
Carbohydrate:	Syrup packed, 18.2 gms.	12 gms.

*Calculated on basis 100 gms. fresh peach 60 gms. plus 15 per cent syrup.

PEANUT BUTTER

Average helping: 1 tablespoon, scant (17 gms. or 0.6 oz.)

Calories	■■■■
Protein	■■■■■■■
Calcium	■■
Phosphorus	■■■■■■
Iron	■■■
Vitamin A	Present.
Vitamin B_1	■■■■■■■■ *
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■
Reaction:	Acid: 0.9 (depends on amount of oil.)
Bulk:	Good.
Carbohydrate:	About 4 gms. depending on amount of oil.

*Roasting reduces B_1 content of fresh peanut by about ¼ to 1/5. Virginia red peanuts are reported to have 10 times more vitamin B_1 than the value here used.

PEARS

Average helping: 2 halves and 2 tablespoons juice (100 gms. or 3.5 oz.);1 pear (100 gms. or 3.5 oz.)

Calories	■■■ Canned.	
Protein	Negligible.	
Calcium	■ Canned.	■■ Fresh.
Phosphorus	■ Canned.	■■ Fresh.
Iron	■ Canned.	■■■ Fresh.
Vitamin A	Scarcely any.	
Vitamin B_1	■■ Fresh. Canning loss unknown.	
Vitamin C	■■■■ Fresh. (Partial destruction in canning.)	
Vitamin D	Unknown.	
Vitamin G	■■■■■■■■ Fresh. Canning loss unknown.	
Reaction:	Alkaline: 1.5, canned; 3.2, fresh.	
Bulk:	Good.	
Carbohydrate:	18 gms., canned; 16 gms., fresh.	

PEAS, ENGLISH

Average helping: 7/8 cup, canned, with juice (181 gms. or 6.4 oz.)
3/4 cup, fresh, (100 gms. or 3.5 oz.)

	Canned	Fresh
Calories	■■	■■■■
Protein	■■■■■■■■	■■■■■■■■■■■■
Calcium	■■	■■■
Phosphorus	■■■■	■■■■■■■■■■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■	■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■■ Fresh or canned.	
Vitamin B_1	■■■■■■■■■■■■■■■■ Raw. If fresh and all cooking water is saved, 25% cooking loss.	
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■ Raw. If fresh and all cooking water is saved, 10%; if water discarded, 50% loss.	
Vitamin D	Unknown	
Vitamin G	■■■■■■■■■■■■■■■■	Present.
Reaction:	Alkaline.	Alkaline.
Bulk:	Fair.	Fair.
Carbohydrate:	12-25 gms., depending on age.	Canned, average 10 gms.

PECANS, SHELLED

Average helping: 24 meats or 12 pecans (28 gms. or 1 oz.)

Calories	■■■■■■■■■
Protein	■■■■■
Calcium	■■■■
Phosphorus	■■■■■■■■■
Iron	■■■■■■■
Vitamin A	■■■
Vitamin B_1	■■■■■■■■■■■■■■■■■■■■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■
Reaction:	Acid: 2.2
Bulk:	Present.
Carbohydrate:	3.6 gms.

PEPPER, GREEN

Average helping: 1 large (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■
Calcium	■■
Phosphorus	■■■
Iron	■■■■
Vitamin A	■■ x3*
Vitamin B_1	■■
Vitamin C	■■ x5
Vitamin D	Unknown.
Vitamin G	■■■■■
Reaction:	Alkaline: 1.7
Bulk:	Good.
Carbohydrate:	5.7 gms.

*Pimento, same.

PINEAPPLE

Average helping: 1 slice, ¾" thick, canned; or ⅔ cup, fresh (100 gms. or 3.5 oz. canned or fresh.)

	Canned	Fresh
Calories	■■■■	■■
Protein	■	■
Calcium	■	■
Phosphorus	■	■
Iron	■■	■■■■
Vitamin A	■■	■■
Vitamin B_1	■■■■	■■■■■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■	■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.	Unknown.
Vitamin G	■■	■■■
Reaction:	Alkaline.	Alkaline.
Bulk:	Present.	Present.
Carbohydrate:	21.1 gms.	13.7 gms.

PINEAPPLE JUICE

Unsweetened, Canned

Average helping: ½ cup, scant (100 gms. or 3.5 oz.)

Calories	■■
Protein	■
Calcium	■■
Phosphorus	■
Iron	■
Vitamin A	■■
Vitamin B_1	■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Unknown.
Bulk:	None.
Carbohydrate:	13 gms.

PORK, LEAN

Average helping: 1 medium loin chop ½″ thick, broiled (68 gms. or 2.4 oz.)

Calories	■■■■■■■■■■■
Protein	■■■■■■■■■■■■■■■■■■■■■■■
Calcium	■
Phosphorus	■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■■■■■■
Vitamin A	Trace in fat.
Vitamin B_1	■■ x 2
Vitamin C	None.
Vitamin D	None.
Vitamin G	■■■■■■■■■■
Reaction:	Acid: 10
Bulk:	None.
Carbohydrate:	None.

An excellent cheap source of vitamin B_1 in the lean meat.

POTATOES, IRISH

Average helping: 1 medium 2½″ diameter, (100 gms. or 3.5 oz.)

Calories	■■■
Protein	■■■■
Calcium	■■
Phosphorus	■■■■■
Iron	■■■■■■■■■■■■
Vitamin A	■
Vitamin B_1	■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■ Raw.*
Vitamin D	None.
Vitamin G	■■
Reaction:	Alkaline.
Bulk:	Present.
Carbohydrate:	19.1 gms.

*Cooked in the jacket, potatoes lose little vitamin C.

POTATOES, SWEET

Average helping: ¾ medium (100 gms. or 3.5 oz.)

Calories	■■■■■
Protein	■■■■
Calcium	■■■
Phosphorus	■■■■
Iron	■■■■■■■■
Vitamin A	■■ x 2
Vitamin B_1	■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ Raw.*
Vitamin D	None.
Vitamin G	■■■■
Reaction:	Alkaline: 6.7
Bulk:	Fair.
Carbohydrate:	27.9 gms.

*Baked with skins on, potatoes lose little vitamin C.

PRUNES, DRIED

Average helping: 4-6 medium, stoned (50 gms. or 1.7 oz.)

Calories	■■■■■■
Protein	■■■
Calcium	■■■■
Phosphorus	■■■
Iron	■■■■■■■■■■■■■■■■■■
Vitamin A	■■■■■■■■■■■■
Vitamin B_1	■■■■■■
Vitamin C	■■
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■■■■■■
Reaction:	Acid.
Bulk:	Good.
Carbohydrate:	35.5 gms.

RADISHES

Average helping: 10 small (100 gms. or 3.5 oz.)

Calories	■
Protein	Negligible.
Calcium	■■■■
Phosphorus	■■■
Iron	■■■■■■■■
Vitamin A	Trace.
Vitamin B_1	■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 2.9
Bulk:	Good.
Carbohydrate:	4.2 gms.

RAISINS

Average helping: ¼ cup, seeded or 2 tablespoons, seedless (29 gms. or 1 oz.)

Calories	■■■■
Protein	■
Calcium	■■■
Phosphorus	■■■■
Iron	■■■■■■■■■■■■ Seedless. ■■■■■■■■■■■■■■■■■■■■■■■ Seeded.
Vitamin A	■
Vitamin B_1	■■ to ■■■■■■
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 7.2
Bulk:	Good.
Carbohydrate:	22 gms.

RICE

White and Brown

(Polished and Unpolished)

Average helping: Scant ½ cup, uncooked; 1 cup, cooked (100 gms., uncooked, or 3.5 oz.)

Calories	[redacted] White or brown.	
Protein	[redacted] White or brown.	
Calcium	[redacted] White.	[redacted] Brown.
Phosphorus	[redacted] White.	[redacted] Brown.
Iron	[redacted] White.	[redacted] Brown.
Vitamin A	None, white	Trace, brown.
Vitamin B_1	None, to [redacted] white	[redacted] x 2
Vitamin C	None.	None.
Vitamin D	Unknown.	Unknown.
Vitamin G	Trace, white.	[redacted] to [redacted] Brown.
Reaction:	Acid: 9.3, white.	Unknown, brown.
Bulk:	None.	Unknown.
Carbohydrate:	79.4 gms., white.	77.7 gms. brown.

RICE POLISHINGS

Average helping: ½ cup (100 gms. or 3.5 oz.)

Calories	Unknown.
Protein	[redacted]
Calcium	[redacted]
Phosphorus	[redacted] x 3
Iron	[redacted] x 3
Vitamin A	Trace.
Vitamin B	[redacted] x 4
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	[redacted] to [redacted]
Reaction:	Unknown.
Bulk	Unknown.
Carbohydrate:	Unknown.

Rice polishings are particularly high in nicotinic acid. Samples having half the value of Brewer's yeast have been reported.

SALMON, CANNED, RED

Average helping: ½ cup, scant (50 gms. or 1.8 oz.)

Calories	[redacted]
Protein	[redacted]
Calcium	[redacted]
Phosphorus	[redacted]
Iron	[redacted]
Vitamin A	[redacted] *
Vitamin B_1	[redacted]
Vitamin C	None.
Vitamin D	(100-400 International Units.)
Vitamin G	[redacted]
Reaction:	Acid: 5.4
Bulk:	None.
Carbohydrate:	None.

*Pink, ⅓ as much; Chinook, twice as much; Chum, one tenth as much.

SARDINES

Average helping: 5 small (50 gms. or 1.8 oz.)

Calories	[redacted]
Protein	[redacted]
Calcium	[redacted]
Phosphorus	[redacted]
Iron	[redacted]
Vitamin A	Present.
Vitamin B_1	[redacted]
Vitamin C	[redacted] to [redacted]
Vitamin D	Good.
Vitamin G	Good.
Reaction:	Acid: 5.7
Bulk:	None.
Carbohydrate:	0.6 gms.

SAUERKRAUT

Average helping: ⅔ cup, solidly packed (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■
Calcium	■■■■■■
Phosphorus	■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■
Vitamin B_1	■■■■■■
Vitamin C	■■■■■■■■■■ to ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin D	Unknown.
Vitamin G	Present.
Reaction:	Alkaline: 5.7
Bulk:	Good.
Carbohydrate:	3.4 gms., canned. 4.9 gms. bulk.

SHRIMP

Average helping: ½ cup, packed solidly (100 gms. or 3.5 oz.)

Calories	■■■
Protein	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Calcium	■■■■■■■■■■■■■■■
Phosphorus.	■■■■■■■■■■■■■■■■■
Iron	■■■■■■■■■■■■■■■
Vitamin A	Present.
Vitamin B_1	■■■■■■
Vitamin C	Unknown.
Vitamin D	Present.
Vitamin G	Present.
Reaction:	Acid.
Bulk:	None.
Carbohydrate:	0.8 gms., canned, 1.5 gms., cooked.

SPINACH

Average helping: ½ cup, packed tightly (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■■
Calcium	Present but not assimilable.
Phosphorus	■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■ x 15
Vitamin B_1	■■■■■■■■
Vitamin C	■■ x 3 Raw*
Vitamin D	Present.
Vitamin G	■■■■■■■■■■■■■■■■■■
Reaction:	Alkaline: 20.0
Bulk:	Excellent.
Carbohydrate:	3.2 gms., fresh.

*Cooking loss about one-fourth.

SQUASH, SUMMER

Average helping: ½ cup, steamed (100 gms. or 3.5 oz.)

Calories	■
Protein	■
Calcium	■■■
Phosphorus	■
Iron	■■■■
Vitamin A	■■■■■■■■■■■■■■■■■ *
Vitamin B_1	■■■
Vitamin C	■■■■■
Vitamin D	Unknown.
Vitamin G	■■
Reaction:	Alkaline: 1.1
Bulk:	Fair.
Carbohydrate:	3.9 gms.

*Varies with color and variety.

STRAWBERRIES

Average helping: ½ cup (100 gms. or 3.5 oz.)

Calories	■■
Protein	■
Calcium	■■■■■
Phosphorus	■■
Iron	■■■■■■■
Vitamin A	■■
Vitamin B_1	■■
Vitamin C	■■ x 2
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■■■■■
Reaction:	Alkaline: 6.6
Bulk:	Fair.
Carbohydrate:	8.1 gms.

SUGAR

Average helping: 2 tablespoons, white (30 gms. or 1.1 oz.)
3 tablespoons, brown (30 gms. or 1.1 oz.)
2¾ to 3 tablespoons, powdered (30 gms. or 1.1 oz.)

Calories	■■■■■
Protein	None.
Calcium	None.
Phosphorus	None.
Iron	None.
Vitamin A	None.
Vitamin B_1	None.
Vitamin C	None.
Vitamin D	None.
Vitamin G	None.
Reaction:	Neutral.
Bulk:	None.
Carbohydrate:	30 gms.

1 level tablespoon is the equivalent of 3 teaspoons.
32 level tablespoons are equivalent to one cup.

SYRUP

Average helping: 1/3 cup or 4½ tablespoons (100 gms. or 3.5 oz.)

	Cane	Sorghum	Corn (Refined)
Calories	■■■■■■■■■■■	■■■■■■■■■■■	■■■■■■■■■■■■
Protein	Unknown.	Unknown.	■
Calcium	Unknown.	Unknown.	Unknown.
Phosphorus	Unknown.	Unknown.	Negligible.
Iron	■■■■■■■■■■■ x 4	■■■■■■■■■■■■■■■■■■■■ x 8	■■■■■■■■■■■■■■■
Vitamin A	None.	None.	None.
Vitamin B	None.	None.	None.
Vitamin C	None.	None.	None.
Vitamin D	Unknown.	Unknown.	Unknown.
Vitamin G	Unknown.	Unknown.	Unknown.
Reaction:	Alkaline.	Unknown.	Unknown.
Bulk:	None.	None.	None.
Carbohydrate:	67 gms.	67 gms.	74 gms.

TAPIOCA

Average helping: ¼ cup, raw; ½ cup, cooked (50 gms. or 1.8 oz.)

Calories	■■■■■■■
Protein	■
Calcium	■
Phosphorus	Negligible.
Iron	■■■■■■■■
Vitamin A	None.
Vitamin B_1	Trace.
Vitamin C	None.
Vitamin G	None.
Reaction:	Neutral.
Bulk:	None.
Carbohydrate:	43.2 gms.

TEA

No food value except added sugar, milk, cream or lemon, each of which must be calculated separately.

"According to definitions of the Federal Government, tea consists of the tender leaves, leaf buds and tender internodes of different varieties of Thea sinensis L., prepared and cured by recognized methods of manufacture. It conforms in variety and place of production to the name it bears, contains not less than 4 per cent nor more than 7 per cent of ash and meets the provisions of the Act of Congress approved March 2, 1897, as amended, regulating the importation and inspection of tea.

"In China tea has been growing for four thousand years or more. It was introduced in Japan during the thirteenth century and into India, Ceylon, Java and other parts of the East Indies during the nineteenth century. Today India and Ceylon lead in exporting tea, China having fallen far behind. Green tea is steamed to destroy enzymes and dried immediately after picking, thus retaining the chlorophyll. To make black tea it is only necessary that the unsteamed leaves are fermented in heaps before being dried. In both varieties the leaves are usually rolled to improve the appearance.

"The common grades of tea are flowery pekoe (leaf buds), orange pekoe (half-grown leaf) and pekoe (first leaf). Chinese tea is often perfumed by being mixed with fragrant jasmine, gardenia and orange flowers.

"The chemical composition of tea varies with the maturity of the leaf and the method of preparation for use (curing). The range of composition of accepted brands of tea as submitted by the manufacturers is shown in the tabulation.

"Tea contains a considerable amount of caffeine and tannic acid. Winton reported the following limits for caffeine in tea on the dry basis: Ceylon 2.7 to 4.89 per cent, Indian 3.86 to 4.89 per cent, Chinese 2.42 to 3.78 per cent, Japan 2.60 to 2.93 per cent and Java Pecco 3.41 to 4.10 per cent.

"Carpenter and Harler reported that fresh leaves contain 25 to 30 per cent tannic acid, which is reduced by about 15 per cent by fermentation. The color of green leaves is influenced by the tannic acid content."

Accepted Foods and Their Nutritional Significance

Council on Foods of the American Medical Association, 1939, pages 365-366.

TOMATOES

Average helping: ½ cup, scant, canned or 1 fresh (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■
Calcium	■■
Phosphorus	■■■
Iron	■■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin B_1	■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ *
Vitamin D	Unknown.
Vitamin G	■■■
Reaction:	Alkaline: 5.3
Bulk:	Fair.
Carbohydrate:	3.9 gms.

*Canned tomato juice the same.

TUNA FISH, CANNED IN OIL

Average helping: ¼ cup (50 gms. or 1.8 oz.)

Calories	■■■■■■
Protein	■■■■■■■■■■■■■■■■■■■■■
Calcium	■■
Phosphorus	■■■■■■■■■■■■■
Iron	■■■■■■■
Vitamin A	Present.
Vitamin B_1	Present.
Vitamin C	None.
Vitamin D	Present.
Vitamin G	Present.
Reaction:	Acid
Bulk.	None.
Carbohydrate:	None.

TURNIP AND TURNIP GREENS

Average helping: ¾ cup, ½" cubes (100 gms. or 3.5 oz.)
⅝ cup, steamed (100 gms. or 3.5 oz.)

	White Turnips	Greens
Calories	■	■
Protein	■■■	■■■■■
Calcium	■■■■■■■■	■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2
Phosphorus	■■■■	■■■■
Iron	■■■■■	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	None.	■■■■■■■■■■■■■■■■■■■■■■■■■■ x 20
Vitamin B_1	■■■■	■■■■■■■■■
Vitamin C	■■■■■■■■■■■■■■■■■ x 3	■■■■■■■■■■■■■■■■■■■■■■■■■■ x 10 Raw.
Vitamin D	None.	None.
Vitamin G	■■	■■■■■■■■■■■■■■■■
Reaction:	Alkaline: 11.6	Alkaline: 3.7
Bulk:	Excellent.	Excellent.
Carbohydrate:	7.1 gms.	5.4 gms.

VEGETABLE SOUP

Average helping: 1 cup, thick (258 gms. or 9.1 oz.)

Calories	■■■■■
Protein	■■■■
Calcium	■■■■■■■
Phosphorus	■■■■■■
Iron	■■■■■■■■
Vitamin A	■■■■■■
Vitamin B_1	■■
Vitamin C	■■■■■■■■
Vitamin D	Unknown.
Vitamin G	■■■■
Reaction:	Alkaline.
Bulk:	Fair.
Carbohydrate:	About 10 gms., depending on vegetables and other ingredients.

Recipe:
⅓ cup turnips
½ cup celery
1½ cups potato
½ onion
1 quart meat stock
½ tablespoon parsley
Seasoning.

WATERCRESS

Average helping: 1 bunch (100 gms. or 3.5 oz.)

Calories	■
Protein	■■■■
Calcium	■■■■■■■■■■■■■■■■■■■■■■■■
Phosphorus	■■■■
Iron	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
Vitamin A	■■ x 2
Vitamin B_1	■■■■■■■■
Vitamin C	■■ x 3
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■
Reaction:	Alkaline: 18
Bulk:	Excellent.
Carbohydrate:	3.3 gms.

WATERMELON

Average helping: 1 slice, edible portion, 6″ diameter, 1½″ thick (662 gms. or 23.4 oz.)

Calories	■■■■■■■■
Protein	■■■■■■■
Calcium	■■■■■■■
Phosphorus	■■■■■■■■
Iron	■■■■■■■■■■■■■■■
Vitamin A	■■■■■■■■■■■■■■■■■■■
Vitamin B_1	■■ x 6
Vitamin C	■■ x 2
Vitamin D	Unknown.
Vitamin G	■■■■■■■■■■■■
Reaction:	Alkaline: 23.8
Bulk:	Good.
Carbohydrate:	45 gms.

WHEAT GERM

Average helping: 1 tablespoon (8 gms. or 0.3 oz.)

Calories	■■
Protein	■■■■
Calcium	■
Phosphorus	■■■■■■
Iron	■■■■■■■■
Vitamin A	■
Vitamin B_1	■■■■■■■■ * to ■■■ *
Vitamin C	None.
Vitamin D	Unknown.
Vitamin G	■■■■
Reaction:	Acid: 2.0
Bulk:	Unknown.
Carbohydrate:	4.0 gms. (Commercial contains some flour).

*Wheat bran is equivalent to about ⅓ this value.

YEAST

Average helping: 28 gms. or 1 oz.

Calories	■ Baker's, compressed.	■■■■ Baker's, dried, and brewer's, dried.
Protein	■■■■■■■ Baker's, compressed.	
	■■■■■■■■■■■■■■■■■■■■■■■ Baker's, dried and brewer's, dried.	
Calcium	■ Baker's, compressed.	■■■ Baker's, dried and brewer's, dried.
Phosphorus	■■■■■■■■■■■■■■ Baker's, compressed.	
	■■■■■■■■■■■■■■■■■■■■ x 4 Baker's, dried and brewer's, dried.	
Iron	Trace.	Trace.
Vitamin A	Unknown.	Unknown.
Vitamin B_1	■■■■■■■■■■■■■■■■■■ to ■■■■■■■■■■■■■■■■■■■■■■■ Baker's, compressed	
	■■■■■■■■■■■■■■■■■■■■ x 2 Baker's, dried.	
	■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 4 Brewers, dried.	
Vitamin C	Unknown.	
Vitamin D	Unknown.	
Vitamin G	■■■■■■■■■■■■■■ to ■■■■■■■■■■■■■■■■■■■■■■■■■ Baker's, compressed.	
	■■■■■■■■■■■■■■■■■■■■■■■■ x 2 Baker's, dried.	
	■■■■■■■■■■■■■■■■■■■■■■■■■■■■ x 2 Brewer's, dried.	
Reaction:	Unknown.	
Bulk:	None.	
Carbohydrate:	Baker's 3.6 gms., compressed; others, 10.5 gms.	

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